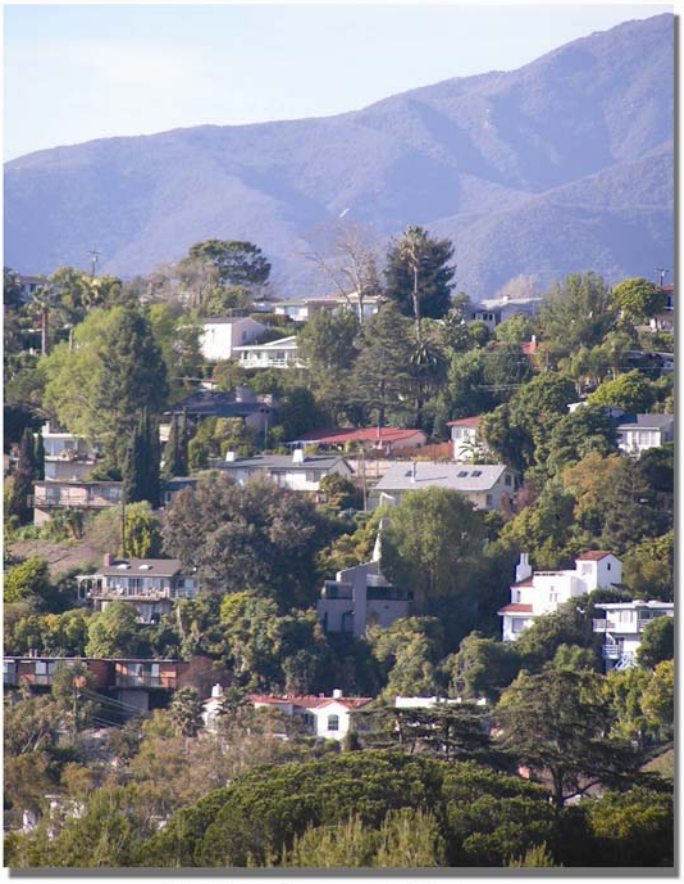
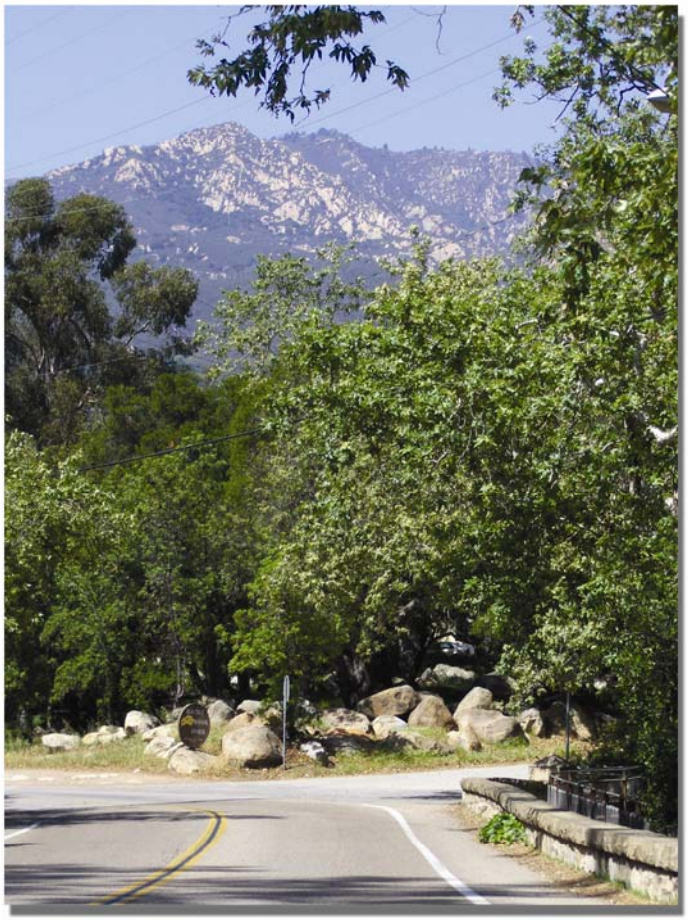


Mission Canyon Heights

The Santa Barbara Botanic Garden



Entrance to Mission Canyon Road Scenic Corridor

Initiation Draft Mission Canyon Community Plan

May, 2008

Prepared by:
Santa Barbara County
Planning & Development
Office of Long Range Planning

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Santa Barbara County Board of Supervisors

Salud Carbajal, *First District*
Janet Wolf, *Second District*
Brooks Firestone, *Chair Third District*
Joni Gray, *Fourth District*
Joseph Centeno, *Fifth District*

Santa Barbara County Planning Commission

C. Michael Cooney, *Chair First District*
Cecilia Brown, *Second District*
C.J. Jackson, *Third District*
Joe H. Valencia, *Fourth District*
Daniel Blough, *Fifth District*

Mission Canyon Planning Advisory Committee

Raymond Smith, *Chair*
Randy Reetz, *Vice Chair*
Ann Cavalli
Jennifer Cushnie
Amanda DeLucia
Suzanne Foley
Jacqueline Hynes
Barbara Lindemann
Kevin Snow

Office of Long Range Planning

John McInnes, *Director*
Derek Johnson, *Deputy Director*
David Lackie, *Supervising Planner*
Rosie Dyste, *Senior Planner*

Planning and Development Staff
Mark Bright, *Mapping Division Chief*
Brett Buyan, *Mapping Technician*

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SECTION I
Introduction, Background and Overview

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A. VISION STATEMENT AND PLAN GOALS

Mission Canyon's character and charm result from the community's eclectic mix of residential styles, mountain, city and ocean views, starry nighttime skies and narrow winding roads without curbs, sidewalks, or traffic lights. The Canyon's historic stone walls, bridges, and archeological features are distinctive, as are significant areas of riparian habitat and natural vegetative cover which support wildlife. Mission Canyon is also home to the Santa Barbara Botanic Garden and Rocky Nook Park.

The Mission Canyon Community Plan area is primarily contained in the Mission Creek watershed and is a designated high/very high fire hazard severity zone. The plan area is comprised of three distinct neighborhoods: the South of Foothill area, a gateway entrance into the Canyon rich in its historic context; Mission Canyon Heights, a densely developed area on a steep south facing slope; and Upper Mission Canyon, an area of medium density and semi-rural aesthetic, ending in a trailhead leading into the Los Padres National Forest.

The primary intent of the Mission Canyon Community Plan is to articulate the community's expressed desire to preserve neighborhood character and charm and protect and enhance the quality of life enjoyed by residents and visitors. The Community Plan's Goals, Policies, and Development Standards are designed to accomplish this aim by enhancing fire safe practices, improving parking, pedestrian, and bicyclist circulation, and assuring the compatibility of new, remodeled, or rebuilt structures with existing development, while placing a high priority on a safe, healthy, sustainable future emphasizing pro-active environmental protection, resource conservation, and integrated planning. The key goals within this plan include:

- Maintain and enhance existing community qualities, including Mission Canyon's natural scenic beauty and charm;
- Improve fire safe practices including vegetation management, defensible space, hydrants and water supply, road safety, and emergency ingress and egress;
- Protect public views of the ocean, mountains, and scenic corridors;
- Provide for the reasonable use of property and limited additional development that is compatible with the natural terrain and with the scale and character of existing structures in the area;
- Assure that development does not exceed availability of adequate services and infrastructure to provide for public health and safety;
- Develop plans for possible post-disaster recovery and reconstruction that balances the likely conflict between the desire for rapid recovery and the competing desire to rebuild a community more resistant to future disaster;
- Protect sensitive habitats and other biological resources;
- Protect watershed function, groundwater and surface water quality, and prevent flooding and erosion;
- Provide safe and efficient circulation systems and improve pedestrian and bicyclist access and safety;[1]

1 Pathways in public right-of-way are required to be ADA (Americans with Disabilities Act) compliant. Pathways are required to have a durable surface if Public Works is responsible for maintenance.

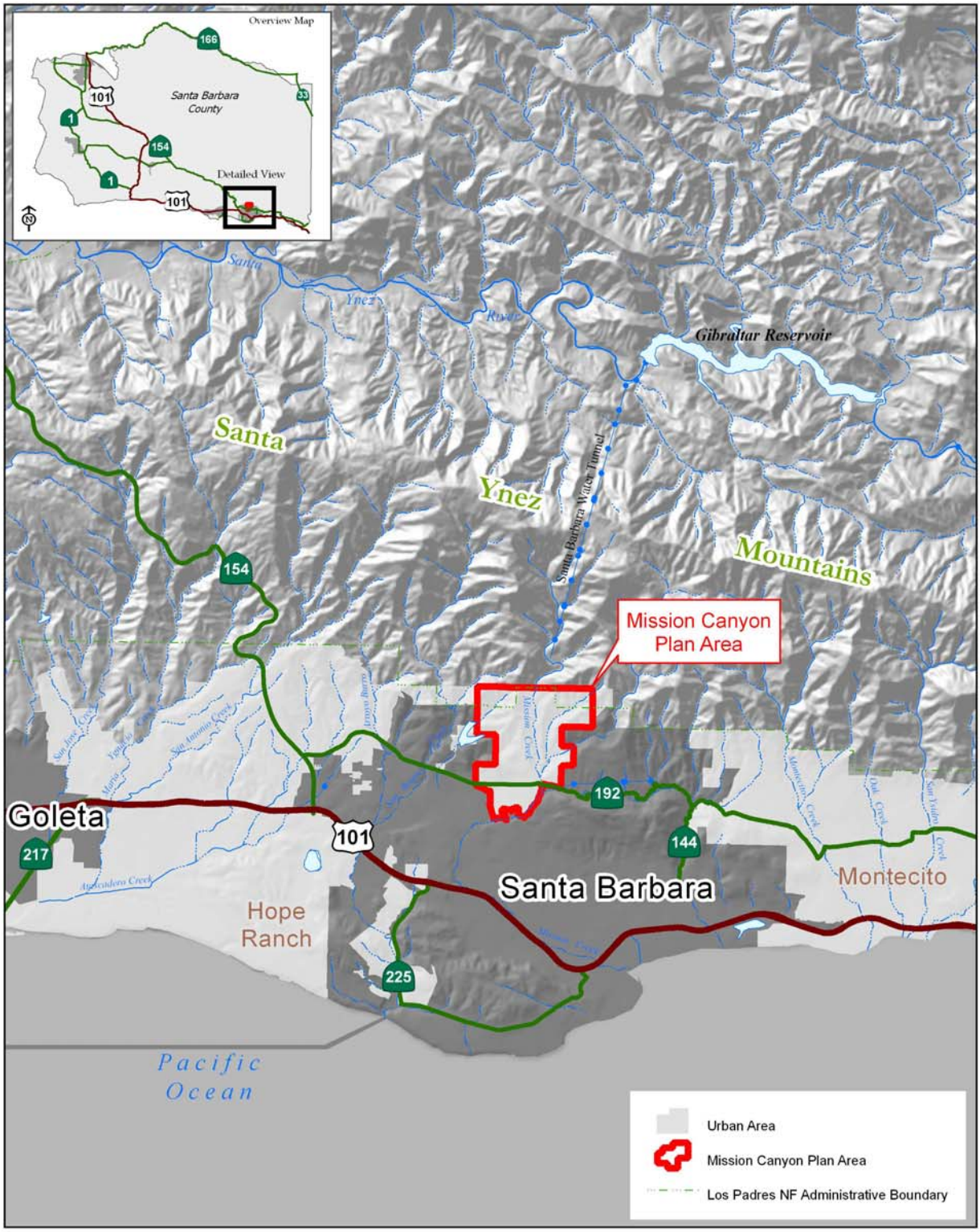
- Promote water conservation, resource recovery, green building practices, and energy conservation and generation;
- Preserve open space;
- Protect historic and cultural resources; and
- Improve aesthetics through the application of Residential Design Guidelines.

B. COMMUNITY PLAN LOCATION AND BOUNDARIES

The Mission Canyon Plan Area is located in the South Coast of Santa Barbara County in the foothills of the Santa Ynez Mountains, north of and adjacent to the City of Santa Barbara (Figure 1). The Plan Area is bounded by the City of Santa Barbara to the west, south and east. To the north lies rural land within the boundary of the Los Padres National Forest. Elevations range from approximately 300' to just over 1,000' above sea level.

Mission Canyon's 1,178 acres support residential development, some recreational areas, and undeveloped parcels. Upper portions of the Plan Area are in the Los Padres National Forest. There is no commercial or industrial development. There are 1,141 parcels and the following land uses: residential, agricultural, recreation/open space, other open lands (which are lands subject to environmental constraints on development, lands which have no agricultural potential, or lands with outstanding resource value), and one institution/government facility (Fire Station 15). Major access roads within Mission Canyon include Mission Canyon Road, State Route 192 (Foothill Road), Tunnel Road, and Las Canoas Road. Many roads throughout the canyon are private. Residential development occurs throughout, generally with larger parcels to the north and smaller parcels to the south.

Mission Canyon supports a diversity of biological resources, including southern oak riparian woodland and chaparral. The upper watershed of Mission and Rattlesnake Creeks supports stretches of relatively undisturbed habitat serving as wildlife corridors within the Plan Area.



Mission Canyon Community Plan
Vicinity Map

Figure 1 — Vicinity Map

C. LEGAL AUTHORITY, PURPOSE AND INTENT

a. Purpose and Intent

The Mission Canyon Community Plan is intended to direct all aspects of preservation and development, including both policy and regulatory elements used in evaluating future development projects. This Community Plan, which replaces the 1984 Mission Canyon Area Specific Plan, contains goals, policies, development standards, and actions intended to regulate and guide future development and improvements. The Plan was developed and recommended for adoption with significant input from the Mission Canyon Planning Advisory Committee (MCPAC) and members of the public. The following regulations are specific statements that shall guide decision-making based on goals and objectives as well as the analysis of data. The Mission Canyon Community Plan is fundamentally a growth management plan meant to provide clear direction to residents, planners, builders, and decision-makers regarding development. All future development shall be consistent with this Plan and any amendments.

b. General Plan Requirements

California State Law (Government Code § 65300 et seq.) requires jurisdictions to prepare a comprehensive, long-term General Plan with land use diagrams (e.g., maps) and text to guide development. The General Plan must include at least seven state-mandated "Elements": Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. Santa Barbara County's General Plan (formally known as the Comprehensive Plan) includes several "optional elements" as allowed by state law, including Agricultural, Energy, Scenic Highways, and Environmental Resource Management Elements. Comprehensive Plans shall be amended regularly to remain "current." Comprehensive Plans are further defined and implemented through zoning maps and ordinances, which must be consistent with the Comprehensive Plan.

Local jurisdictions may prepare more focused Community or Area Plans for smaller geographic regions. Previously adopted Community or Area Plans in Santa Barbara County include Los Alamos, Summerland, Montecito, Goleta, Orcutt, and Toro Canyon. Appropriate text from previously adopted Community Plans are reiterated in the Mission Canyon Community Plan when applicable to this community. In particular, text, policies, and development standards from the Toro Canyon Plan (adopted by the Board of Supervisors in 2002), formed the basis for some sections of the Mission Canyon Community Plan due to Toro Canyon's regional and physical similarities to Mission Canyon.

c. What is a Community Plan?

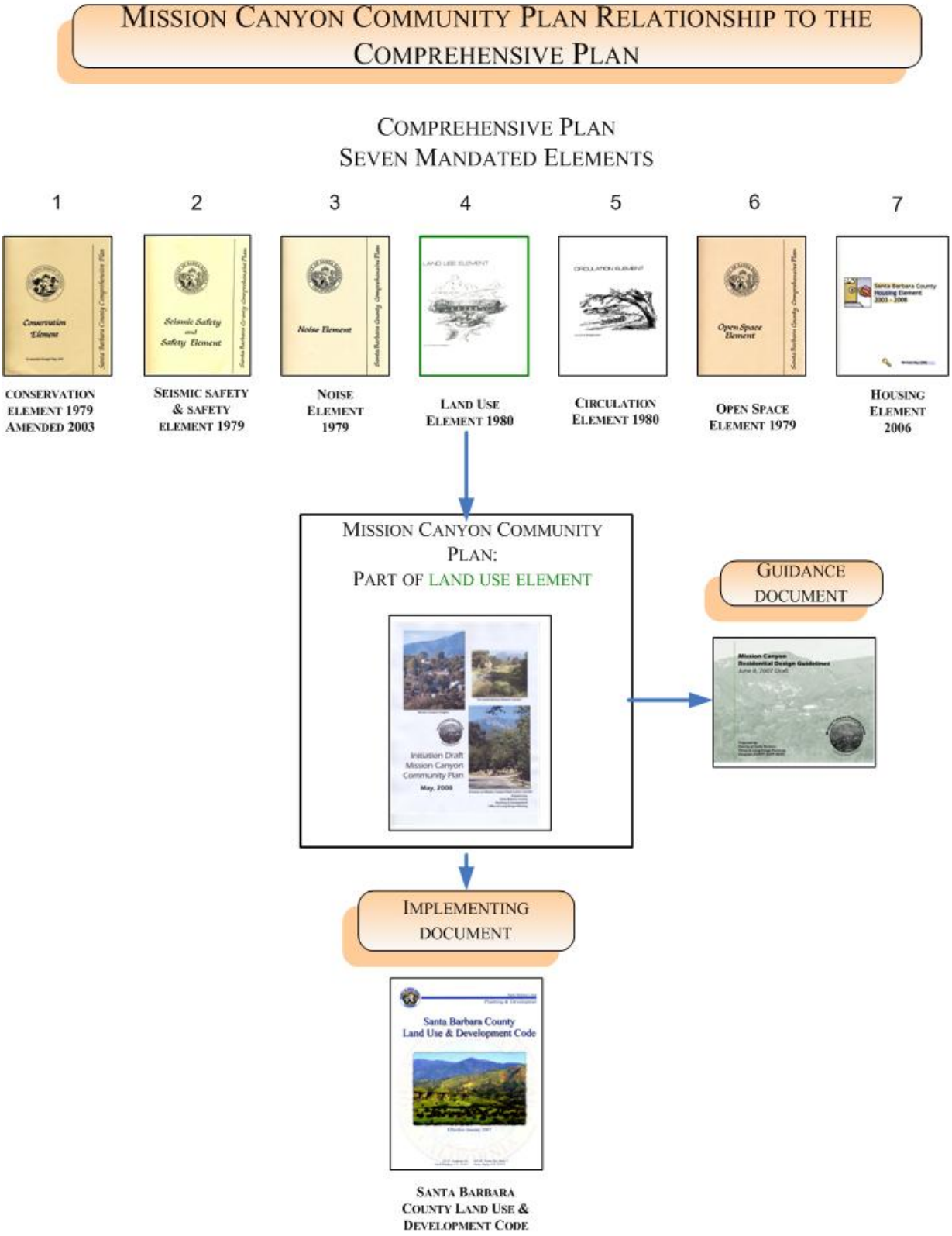
Community Plans focus on general planning issues pertaining to an identified geographical area or community (Public Resources Code § 21083.3). Community or Area plans are adopted in the same manner as a general plan amendment and are similarly implemented by local ordinances (e.g., zoning). A community plan must be internally consistent with the general plan, of which it is a part.[2]

The Mission Canyon Community Plan includes by reference relevant policies of the County's Comprehensive Plan. This Community Plan also contains Mission Canyon specific development

2 State of California General Plan Guidelines.(Sacramento: Governor's Office of Planning and Research 2003), pg.17.

policies and measures to implement those policies. The policy direction and analysis of the Mission Canyon Community Plan will govern all development proposals; however, site-specific environmental review and planning approvals are still required for specific developments. Chapter 35 of the County Code (Santa Barbara County Land Use & Development Code, effective January 2007) is the applicable zoning ordinance in Mission Canyon. Figure 2 depicts the relationship between the Mission Canyon Community Plan and Residential Design Guidelines to the mandated elements of the Comprehensive Plan and the zoning ordinance. In addition to the mandatory elements shown in Figure 2, the County also has completed the following additional elements: Scenic Highways Element (1975), Environmental Resource Management Element (1980), Hazardous Waste Element (1990), Agricultural Element (1991) and Energy Element (1994). Supplements to the mandated elements (not shown in Figure 2) include the Groundwater Resources supplement to the Conservation Element (1994), the Safety Element supplement to the Seismic Safety & Safety Element (2000) and the Air Quality supplement to the Land Use Element (1981).

Figure 2— Relationship of Mission Canyon Community Plan to Other County Documents



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D. OVERVIEW OF THE MISSION CANYON COMMUNITY PLAN

a. Structure of the Mission Canyon Community Plan

The Mission Canyon Community Plan groups each of the seven mandated Comprehensive Plan Elements into three "Super Elements". Each Super Element covers the following topics:

- Community Development (Comprehensive Plan Elements Land Use, Safety, Housing and Noise) includes the topics of Land Use and Planning for Post-Disaster Recovery and Reconstruction;
- Public Facilities and Services (Comprehensive Plan Elements Land Use, Safety, Circulation, Conservation and Open Space) includes the topics of Fire Protection/Hazards, Parks, Recreation & Trails, Circulation and Parking, Public Services and Wastewater; and
- Resources and Constraints (Comprehensive Plan Elements Land Use, Safety, Conservation and Open Space) includes the topics of Biological Resources, Flooding and Drainage, Geology, Hillsides and Topography, History and Archaeology and Visual and Aesthetic Resources.

b. Organization and Definitions

Specific goals, policies, development standards, and actions, as defined below, follow each Super Element.

Goal *- A goal is an ideal future end, condition or state related to the public health, safety or general welfare toward which planning efforts are directed. A goal is a general expression of community values and therefore is abstract in nature (e.g., "An aesthetically pleasing community," or "Quiet residential streets").*

Policy *- A policy is a specific statement that guides decision making that is based on a general plan's goals and objectives as well as the analysis of data. Policies should be clear and unambiguous (e.g., "Infill development at specified densities shall be encouraged, and scattered urban development shall not be allowed").*

Development Standards *- Development standards are measures that will be incorporated into development projects to provide consistency with certain policies of the Community Plan. Not all policies require development standards.*

Action *- An action is a one-time action, program, procedure or development standard that carries out General Plan policy. Not all policies require actions.*

> ***One-time Actions*** *- One-time actions usually are adopted concurrently with the Community or Area Plan.*
>
> ***Programs*** *- Programs are actions that are primarily administrative functions, such as the development of an ordinance or study to address a goal (e.g., "A Tree Preservation Ordinance shall be drafted"). Program Actions will be adopted with the goals, objectives and policies of the Plan.*

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E. BACKGROUND AND COMMUNITY PLAN PROCESS

Prior to the early 1980s, all wastewater treatment and disposal in Mission Canyon consisted of septic and dry well systems. In 1978, partially due to the problematic nature of wastewater disposal within the area, the Board of Supervisors designated Mission Canyon a "Special Problem Area". Following this designation, the County undertook studies to evaluate wastewater disposal alternatives, which resulted in the preparation of a Wastewater Facilities Plan. The Facilities Plan divided the Plan Area into two distinct parts, a service area proposed for connection to and transmittal of wastewater to the City of Santa Barbara's El Estero Wastewater Treatment Plant, and a maintenance area within which current and future septic tank systems would be permitted.

In 1983 an Environmental Impact Report (EIR) was prepared to address the environmental impacts of extending sewer service to portions of Mission Canyon. During the initial environmental review period, the City of Santa Barbara expressed concerns related to growth inducement issues, particularly in terms of potential conflicts with the City Charter Amendment adopted in 1982, in which City policy states that "…land development shall not exceed its public services and physical and natural resources….".[3] A Supplemental EIR was prepared to respond to the City's concerns. The Supplemental EIR concluded that the adoption of a "Specific Plan" could control the rate of growth within the area more effectively than existing regulations.[4]

After the Specific Plan concept was approved by the County, a Joint Powers Agreement was adopted that made the City's provision of sewer service contingent upon the preparation and adoption of a joint City-County Specific Plan, the amendment of which also requires the approval of both entities. A Mission Canyon Area Specific Plan was adopted by both the County and City in October 1984.

Since the adoption of the Specific Plan in 1984, approximately 52 new units have been built and approximately 89% of the total parcels in Mission Canyon are developed with a housing unit. New issues that have emerged since 1984 include traffic, circulation and parking, illegal units, stormwater runoff and erosion, and fire hazards. Other concerns include visual and neighborhood impacts from increasingly larger new and remodeled homes, and changes to the scenic streetscape along major roads. In July 2006, the County Board of Supervisors directed an update to the 1984 Specific Plan to focus on traffic and circulation and natural hazards as well as to address architectural design with the preparation of Residential Design Guidelines. The Board appointed a nine member Mission Canyon Planning Advisory Committee (MCPAC) to work with County staff to draft Residential Design Guidelines and update the Specific Plan.

As work progressed it became clear it was more appropriate to adopt goals and policy directives proposed by the MCPAC as a Community Plan rather than an updated Specific Plan. As required in the Joint Powers Agreement (Appendix A), the County and the City of Santa Barbara has approval authority over the Mission Canyon Community Plan. Any future amendments to the Mission Canyon Community Plan will require both City and County approval.

3 Charter of the City of Santa Barbara (Santa Barbara: City Clerk's Office, Reprinted 2005), pg. 29.

4 Interface Planning and Counseling Corporation, Supplement Draft Environmental Impact Report Mission Canyon Area Wastewater Facilities Plan, (Santa Barbara: 1983), pg. 12.

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F. EXISTING COUNTY PLANS AND POLICIES

Existing Santa Barbara County General Plan policies summarized below provide context for the relationship between the General Plan and the Mission Canyon Community Plan. The Mission Canyon Community Plan augments the Land Use, Circulation, and other General Plan Elements to provide specific policy direction; however, countywide policies will remain in effect. The summaries presented here are an overview and do not contain actual policy language.

1. **Land Use Element:** The Land Use Element represents the County's policy on land use and interrelates all the different factors that affect population growth, urban development, and open land preservation. The Land Use Element's four fundamental goals include:

Environment: Environmental constraints on development shall be respected. Economic and population growth shall proceed at a rate that can be sustained by available resources.

Urbanization: In order for the County to sustain a healthy economy in the urbanized areas and to allow for growth within its resources and within its ability to pay for necessary services, the County shall encourage infill, prevent scattered urban development, and encourage a balance between housing and jobs.

Agriculture: In rural areas, cultivated agriculture shall be preserved and where conditions allow, expansion and intensification should be supported. Lands with both prime and non-prime soils shall be reserved for agricultural uses.

Open Lands: Certain areas may be unsuitable for agricultural uses due to poor or unstable soil conditions, steep soils, flooding or lack of adequate water. These lands are usually located so that they are not necessary or desirable for urban uses. There is no basis for the proposition that all land, no matter where situated or whatever the need, must be planned for urban purposes if they cannot be put to some other profitable economic use.

Applicability: Land Use Element goals and policies regarding development, streams and creeks, hillside and watershed protection, flood hazard areas, environmental concerns, historical and archaeological sites, parks and recreation, visual resources, and air quality are applicable to guiding development in the Mission Canyon Plan Area.

2. **Conservation Element:** Santa Barbara County's natural and cultural resources are the subject of the Conservation Element, which describes water resources, agricultural resources, ecological systems, historic and archaeological sites, and mineral resources, and recommends policies and programs designed to protect them.

Applicability: Water quality and supply are addressed in the Public Services and Wastewater sections of the Community Plan. Ecological systems, including policies and development standards protective of the Community Plan Area creeks are included in the Biological Resources section of the plan. Historic and archaeological sites are addressed in the History and Archaeology section of the plan. The Conservation Element's agricultural

and mineral resources recommended policies and programs are not applicable to the Mission Canyon Plan Area.

3. Seismic Safety and Safety Element: The purpose of the Seismic Safety and Safety Element is to reduce potential deaths, injuries, and damage to property caused by earthquakes, fires, geologic hazards, and other natural disasters. Specific recommendations are given for these subjects.

Applicability: The entire Mission Canyon area is located in a Very High and High Fire Hazard Severity Zone (VHFHSZ) as designated by the State of California. It also contains several faults, areas of poor soil and steep unstable slopes, and areas located within floodplains. Such hazards are given major attention in the Fire Protection/Hazards, Flooding and Drainage, and Geology sections of the Community Plan.

4. Noise Element: The purpose of the Noise Element is to protect the public from noise that could jeopardize health and welfare. The Noise Element identifies major noise sources, estimates the extent of their impact and discusses potential methods of noise abatement. Specifically, the Element identifies 65 decibels (dB) Day-Night Average Sound Level as the maximum exterior noise exposure compatible with noise-sensitive land uses (e.g., residences, schools, and hospitals), unless noise mitigation features as included in project designs.

Applicability: The Noise Element – 3 Map for the Santa Barbara Area depicts approximately 20 feet on either side of Foothill Road in the 65 – 69 dB Community Noise Level Equivalent range (no other portions of Mission Canyon are shown exposed to 65 dB or above). In this instance, the County's standard conditions for approval could require noise control measures incorporated into project design to reduce exterior noise to at or below 65 dBA and interior noise to at or below 45 dBA. In general, the relative quiet of the community is valued by residents and visitors as noted in the Community Plan Land Use Goal MC-4.

5. Circulation Element: The Circulation Element identifies key roadway links throughout the unincorporated areas of the County and guides decisions regarding new development.

Applicability: The Mission Canyon Community Plan Circulation section is designed to provide a balance between the land use designations and standards of the Circulation Element.

6. Open Space Element: The Open Space Element considers open space factors for public health and safety, managed production of resources, outdoor recreation, preservation of natural resources, and scenic qualities. The element also inventories public and private open space areas and contains recommendations and programs for preserving and managing those lands.

Applicability: Factors to protect open space and scenic resources are considered in the Parks, Recreation and Trails, Biological Resources, and Visual and Aesthetic sections of the plan.

7. **Housing Element:** The Housing Element policies require the County to plan for an adequate amount of housing to meet the existing and projected housing needs of all economic segments of the community.

Applicability: The amount of housing in Mission Canyon is appropriate for a semi-rural/urban area with Special Problem designation resulting from high fire hazards, steep slopes, and septic system issues. It is not appropriate to change the existing zoning for higher densities to provide affordable units given Mission Canyon's character and substantial constraints.

The plan shall also be consistent with the following additional elements, as applicable to this Plan Area:

1. **Environmental Resource Management Element (ERME):** The ERME is a compendium and synthesis of the Seismic Safety and Safety, Conservation, Open Space, and Scenic Highways Elements and identifies specific factors that limit urban development, such as prime agricultural lands, steep slopes, biological habitat areas, floodplains and floodways, and geologic hazards.

Applicability: The Mission Canyon Community Plan recognizes the existence of various ERME factors through its prevailing pattern of land uses and densities.

2. **Energy Element:** The Energy Element contains long-range planning guidelines and mechanisms to encourage energy efficiency and alternative energies in the County.

Applicability: Energy efficiency is an important issue in the Mission Canyon and is addressed in the Public Services section of the plan.

Other documents and Plan Area designations relevant to Mission Canyon include:

Mission Canyon Residential Design Guidelines

The Mission Canyon Residential Design Guidelines provide guidance to homeowners, developer, and designers in identifying the components that define the character of a neighborhood and to use this information when designing new or remodeled homes. The guidelines also provide the tools for staff, the County's South Board of Architectural Review, and other decision-makers to properly evaluate development proposals based on the community's goals.

Land Use & Development Code

The Santa Barbara County Land Use & Development Code (LUDC) constitutes a portion of Chapter 35 of the County Code. The LUDC carries out the policies of the General Plan by classifying and regulating the uses of land and structures within the County. The LUDC is the tool used by the County to carry out goals and policies of this Community Plan.

Special Problem Area Designation

The Board of Supervisors designated the entire Mission Canyon Plan Area as a Special Problem Area, due to existing or anticipated special and unique problems pertaining to flooding, drainage, soils, geology, access, sewage disposal, water supply, location, or elevation, which impact public health, safety and welfare. A Special Problems Committee composed of representatives of Planning

and Development, Environmental Health, Fire, and Public Works, reviews proposed buildings and structures in Special Problem Areas. Project application materials are submitted to the committee at the time of application for a land use and/or grading permit. The committee may impose any and all reasonable conditions to prevent or mitigate present or anticipated problems that may result from the project. The committee has the authority to prohibit construction if the committee unanimously agrees that there is no other feasible way to prevent a serious risk of substantial damage to property, public or private, or of injury to persons.

G. MEANING OF KEY TERMS USED IN THIS PLAN

Many of this plan's goals, policies, development standards and actions make repeated use of the term "development" and use qualifiers such as, "except where it/this would preclude reasonable use of property." In order to provide clear guidance and promote consistent application of the plan, the meanings of these key terms as used within this plan shall be defined as follows:

"Development" shall be as defined in the Land Use & Development Code, and

"…shall not preclude development of a parcel to such extent that an unconstitutional deprivation of property occurs" shall mean except where it/this will take private property for public use without just compensation as required by applicable law.

The plan's policies, development standards, and actions contain various directives that appear in the form of either "shall," "should," or "may." The meaning of these terms is as follows:

"Shall" indicates an unequivocal directive;

"Should" signifies a less rigid directive, to be honored in the absence of compelling or contravening considerations; and

"May" indicates a permissive suggestion or guideline.

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SECTION II
Community Development

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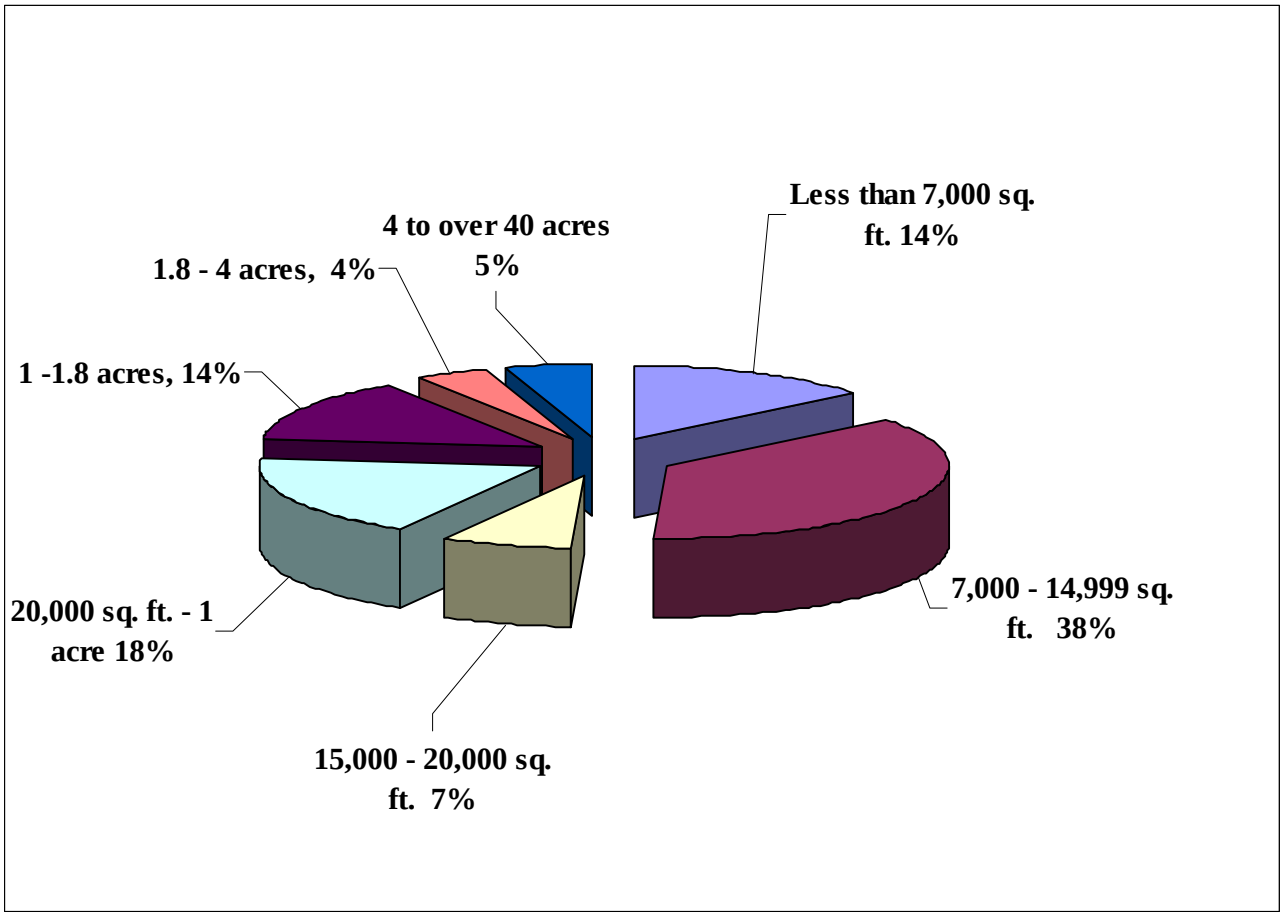
A. LAND USE

1. PLAN AREA SETTING

Mission Canyon is an area of considerable scenic beauty comprising approximately 1,178 acres on the south facing slopes of the Santa Ynez Mountains. Most of the Plan Area is developed with single family residences located on parcels ranging from 7,000 square feet (sq. ft.) to over 40 acres (Figure 3). There are 161 developed and vacant parcels smaller than 7,000 sq. ft. However, 7,000 sq. ft. represents the minimum lot size presently allowed in the County's Land Use Element.

Figure 3 — Mission Canyon Parcel Sizes



Topography ranges from relatively flat areas south of Foothill Road to steep slopes in Mission Canyon Heights and Upper Mission Canyon. Much of the Plan Area is covered with native vegetation including coast live oaks, sycamores, chaparral, and riparian species, as well as introduced exotic varieties. Most of the Plan Area is within the Mission Creek watershed comprised of Mission and Rattlesnake Creeks. The upper portion of the Canyon is within the boundaries of the Los Padres National Forest.

The potential danger from wildfire is magnified in the Canyon due to the limited number of major ingress and egress routes, steeply sloped topography, and significant amount of vegetative cover. Mission Canyon and Tunnel Roads, the two primary ingress and egress routes into the upper Canyon, both dead end at the upper boundary of the Plan Area. Although other secondary ingress and egress routes exist, it may be challenging to evacuate this area in an emergency. The Canyon constitutes what is termed the "urban-wildland interface" area because residential neighborhoods are intermixed and adjacent to fire-prone wildlands. The physical framework of the Canyon provides a heightened awareness of the potential danger from wildfires, which in turn has strongly influenced the goals, policies and development standards outlined in this document.

a. Existing Neighborhoods

Mission Canyon residents tend to view the Mission Canyon Community Plan Area as one neighborhood with common interests and concerns. However, general differences in terms of home and lot size, residential density, topographic, and other natural features are evident in three distinct neighborhoods: South of Foothill, Mission Canyon Heights, and Upper Mission Canyon (Figure 4). Table 1 summarizes parcel information for each neighborhood, followed by a description of general neighborhood characteristics.

Table 1: Neighborhood Existing Parcel Information

Neighborhood	Acreage	Number of Parcels	Number of Vacant Parcels	Number of Units
South of Foothill	143	258	26	231
Mission Canyon Heights	160	550	23	527
Upper Mission Canyon	875	333	80	254
TOTAL	1,178	1,141	129	1,012

South of Foothill

South of Foothill comprises approximately 143 acres of relatively flat terrain. Parcel sizes range from just over 800 sq. ft. (which are considered "existing non-conforming") to over 10 acres; the average parcel size is just over ½ acre. There are 26 vacant parcels[5], eight of which are substandard in size and/or width. Most parcels have municipal wastewater connections with the exception of three parcels remaining on septic systems.

South of Foothill includes the Mission Canyon Scenic Corridor (see the Visual and Aesthetic Resources section for more information), 19-acre Rocky Nook Park, "Glendessary House" a County Historic Landmark, The Santa Barbara Woman's Club, and County Fire Station 15. Mission Santa Barbara and the Santa Barbara Museum of Natural History are also nearby. Mission Canyon Road

5 For the purposes of this calculation, a "vacant" parcel is based on Assessors Land Use Codes and includes any parcel that does not have a residential unit on it.

and Foothill are the main access roads. A multi-use trail leads from Rocky Nook Park to Foothill Road at Fire Station 15. Mission Creek runs through the eastern edge of this neighborhood and through Rocky Nook Park. History and archaeology, parks and trails, and visual and aesthetic resources are particularly important in this area.

Mission Canyon Heights

Mission Canyon Heights comprises approximately 160 acres of steeply sloped terrain. Parcel sizes range from less than 500 sq. ft. (existing non-conforming as to size) to more than 2 acres, with the average parcel size of just over ½ acre. There are 23 vacant parcels, eight of which are substandard in size and/or width. Most parcels have municipal wastewater connections with the exception of five parcels remaining on septic systems. This area is almost entirely developed with single-family residences at a higher density than the South of Foothill or Upper Mission Canyon neighborhoods. Issues of particular importance to this neighborhood, due to its constrained roadways and topography, include circulation and parking, geology, hillsides and topography, and flooding and drainage.

Upper Mission Canyon

Upper Mission Canyon comprises approximately 875 acres of variable terrain. This area has the largest parcel sizes, ranging from over 7,000 sq. ft. to over 40 acres although there are a few smaller parcels. The average parcel size is just under one acre. There are 80 vacant parcels, nine of which are substandard in size and/or width. The majority of homes in this area use septic systems for wastewater disposal. Areas of interest include the Santa Barbara Botanic Garden, the nearby access to Tunnel and Jesusita trails off upper Tunnel Road, and Skofield Park off Las Canoas Road. Mission and Rattlesnake Creeks run through this area. Hazards and constraints most prominent in this area include circulation and parking, geology, hillsides and topography, flooding and drainage, wastewater, and biological resources.

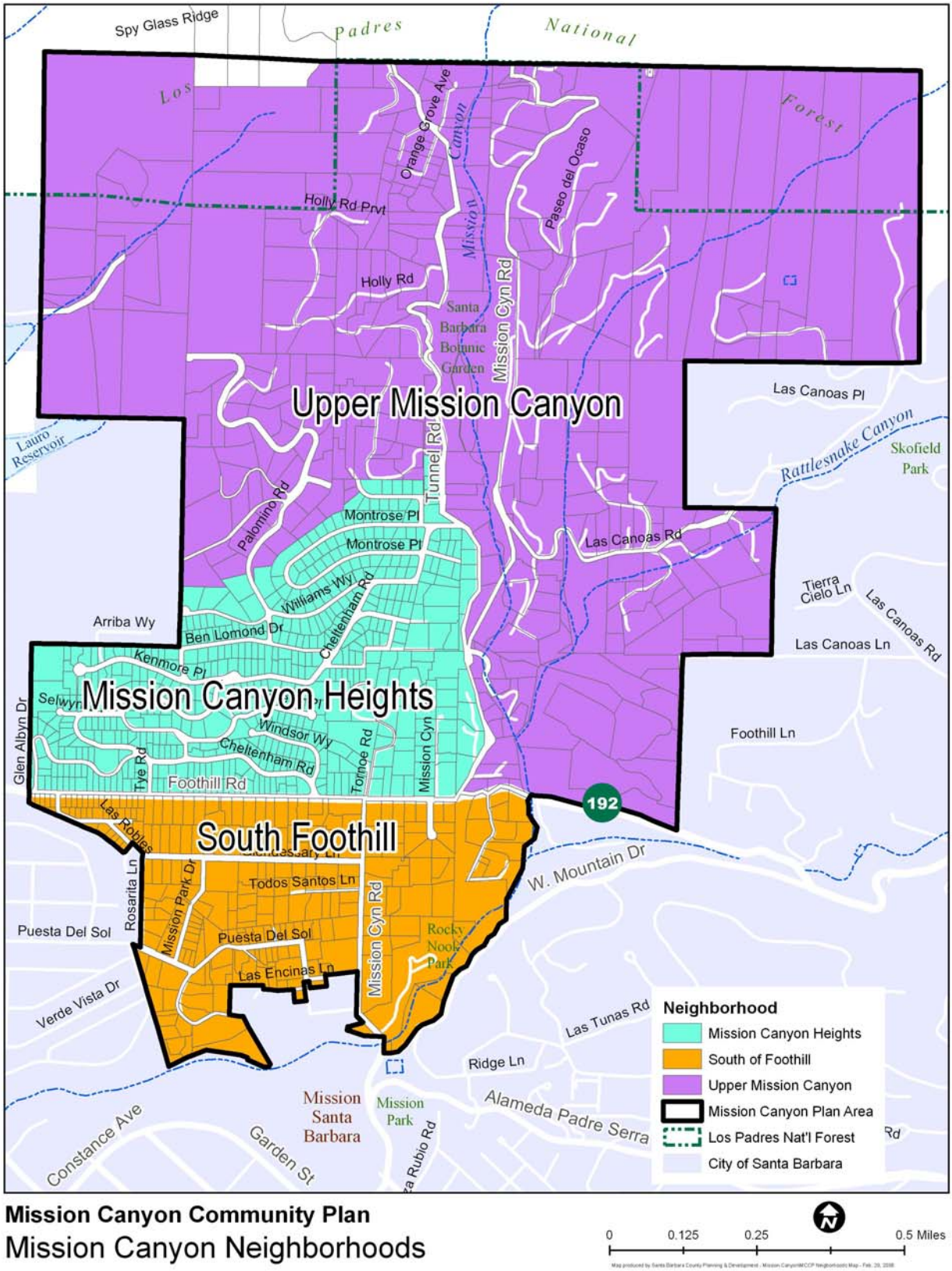


Figure 4 — Mission Canyon Neighborhoods

2. PLANNING AND HOUSING ISSUES

a. Issues

Mission Canyon's boundaries enclose an area with many common planning issues including:

- Appropriate locations for and types of residential development and accessory structures;
- Preservation of open space and semi-rural character;
- Adequate and safe circulation for automobiles, bicyclists and pedestrians;
- Development in high fire hazard areas;
- Evacuation routes and emergency vehicle access;
- Habitat preservation and protection;
- Unstable soils and slopes;
- Trails and recreation; and
- Adequate wastewater systems.

Residential Second Units

A residential second unit is a dwelling unit on a permanent foundation that provides complete, independent living facilities for one or more persons in addition to a primary dwelling on the same lot.[6] The residential second unit may either be attached (shares a common wall with the primary dwelling) or detached (not physically attached to the primary dwelling). Since 2003, State law has encouraged the creation of second units by requiring development applications for second units to be considered ministerially, which means without discretionary review or hearing. Prior to 2003, second dwelling units (also called "Granny Units") were not permitted in Mission Canyon as long as the area was still designated a Special Problem Area. Since then, the Land Use & Development Code (LUDC) was amended to permit residential second units in designated Special Problem Areas if the Director of Planning & Development can make a series of rigorous findings as provided in the LUDC.[7]

Since 2003, a total of 7 permit applications for residential second units in Mission Canyon have been filed with the County. Theoretically, 170 residential second units could be built in Mission Canyon based on existing zoning and parcel size, but not accounting for limiting factors such as slope. Due to the fire hazard, this plan prohibits the permitting of residential second units in the Very High and High Fire Hazard Severity Zone areas of Mission Canyon (as defined by the State's Fire Hazard Severity maps). This prohibition is consistent with the City of Santa Barbara's zoning code, which prohibits secondary dwelling units in High Fire Hazard Areas (as defined in the City's Fire Master Plan).[8]

b. Land Use and Zoning

Figure 5 shows land use designations and Figure 6 shows zoning under this plan. Figure 6 also includes adjacent City of Santa Barbara zoning designations, explained in Table 2 below. Figures 7 and 8 show land use and zoning by number of parcels. No land use or zoning changes are proposed in this Community Plan.

6 Santa Barbara County Planning & Development, Land Use & Development Code (2007) Article 35.11, pg. 11-52.

7 Ibid, Section 35.42.230, pg. 4-50.

8 City of Santa Barbara, Title 28 Zoning Ordinance, Section 28.94.030, pg. 559.

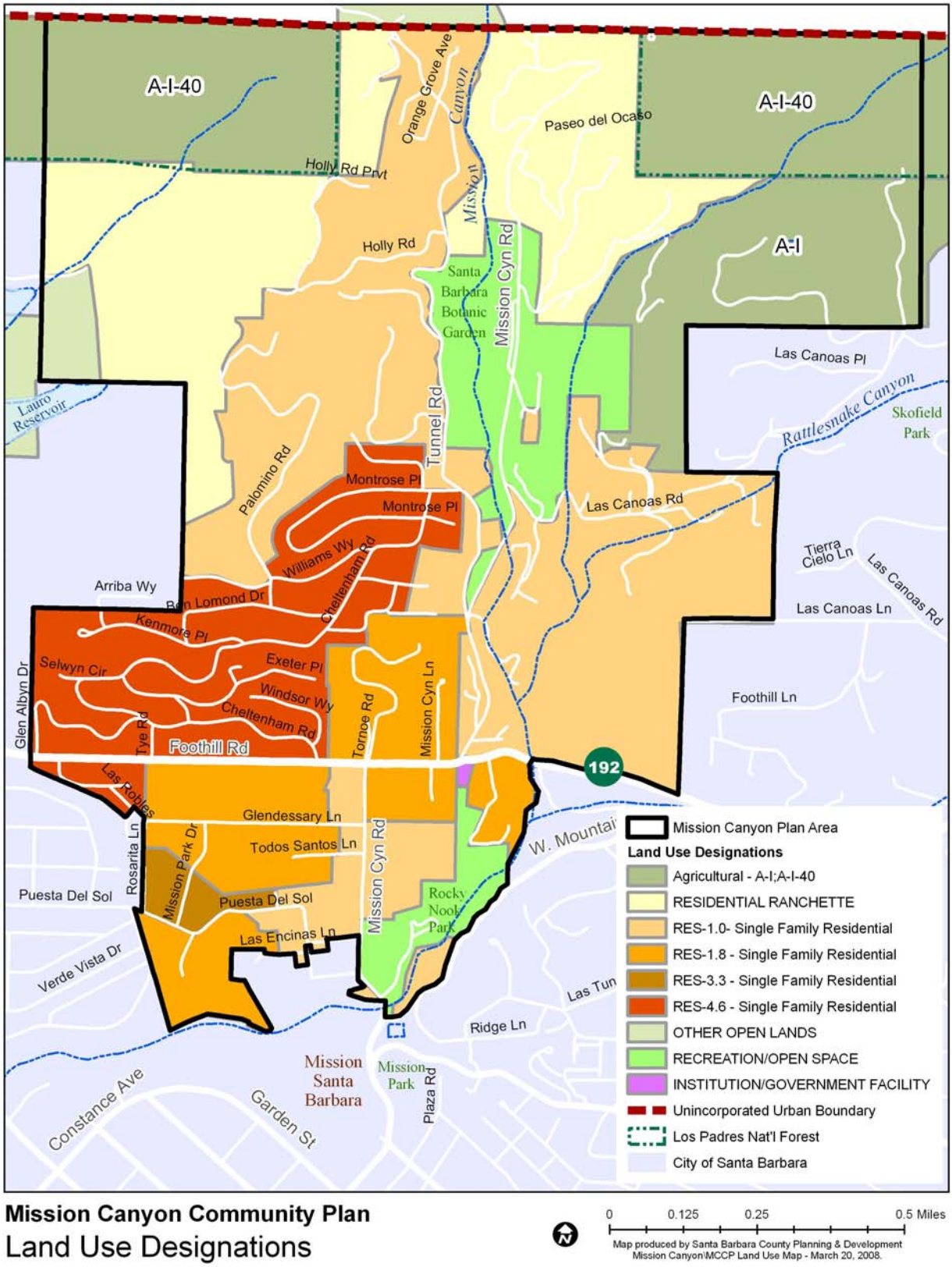


Figure 5 — Land Use Designations

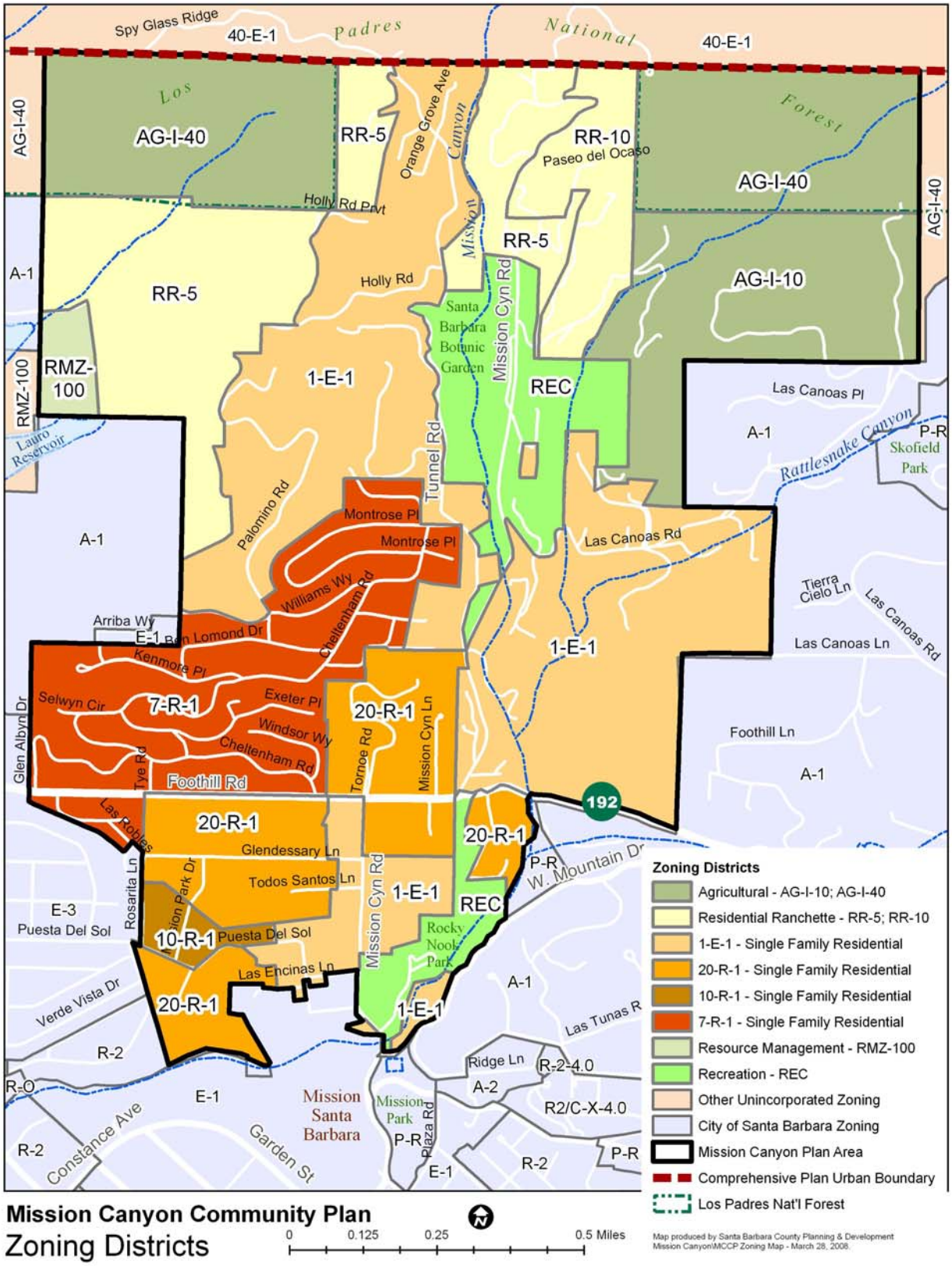


Figure 6 — Zoning Districts

Table 2: City of Santa Barbara Adjacent Zoning Designations

Zone Classification	Type
A-1	One-family residence, minimum 1-acre lot size
A-2	One-family residence, minimum 25,000 square feet lot size
E-1	One-family residence, minimum 15,000 square feet lot size
E-3	One-family residence, minimum 7,500 square feet lot size
R-2	Two-family residence, minimum 7,000 square feet lot size (for newly created lots)
P-R	Park and Recreation Zone
C-X	Research and Development and Administrative Office Zone

Figure 7 — Parcels by Land Use

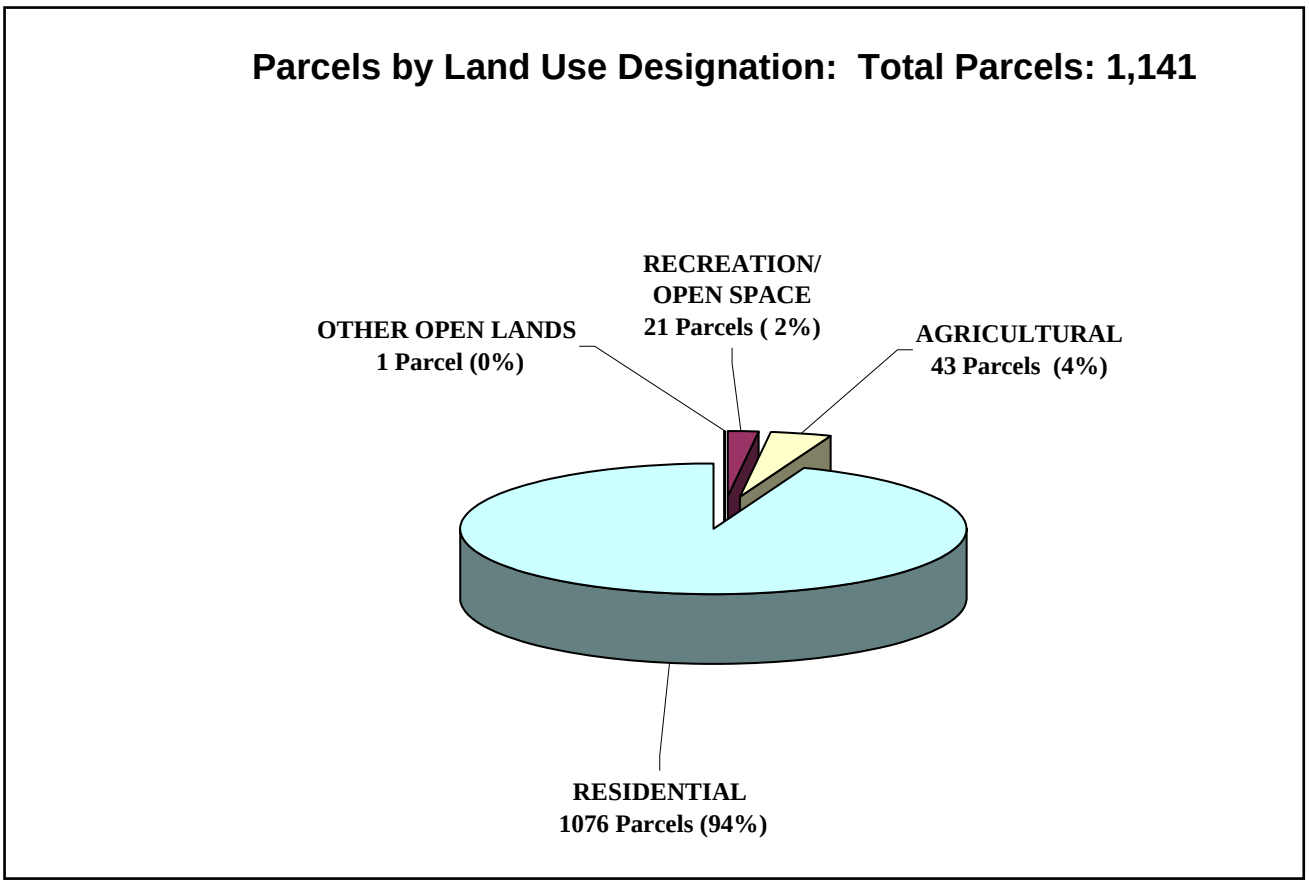
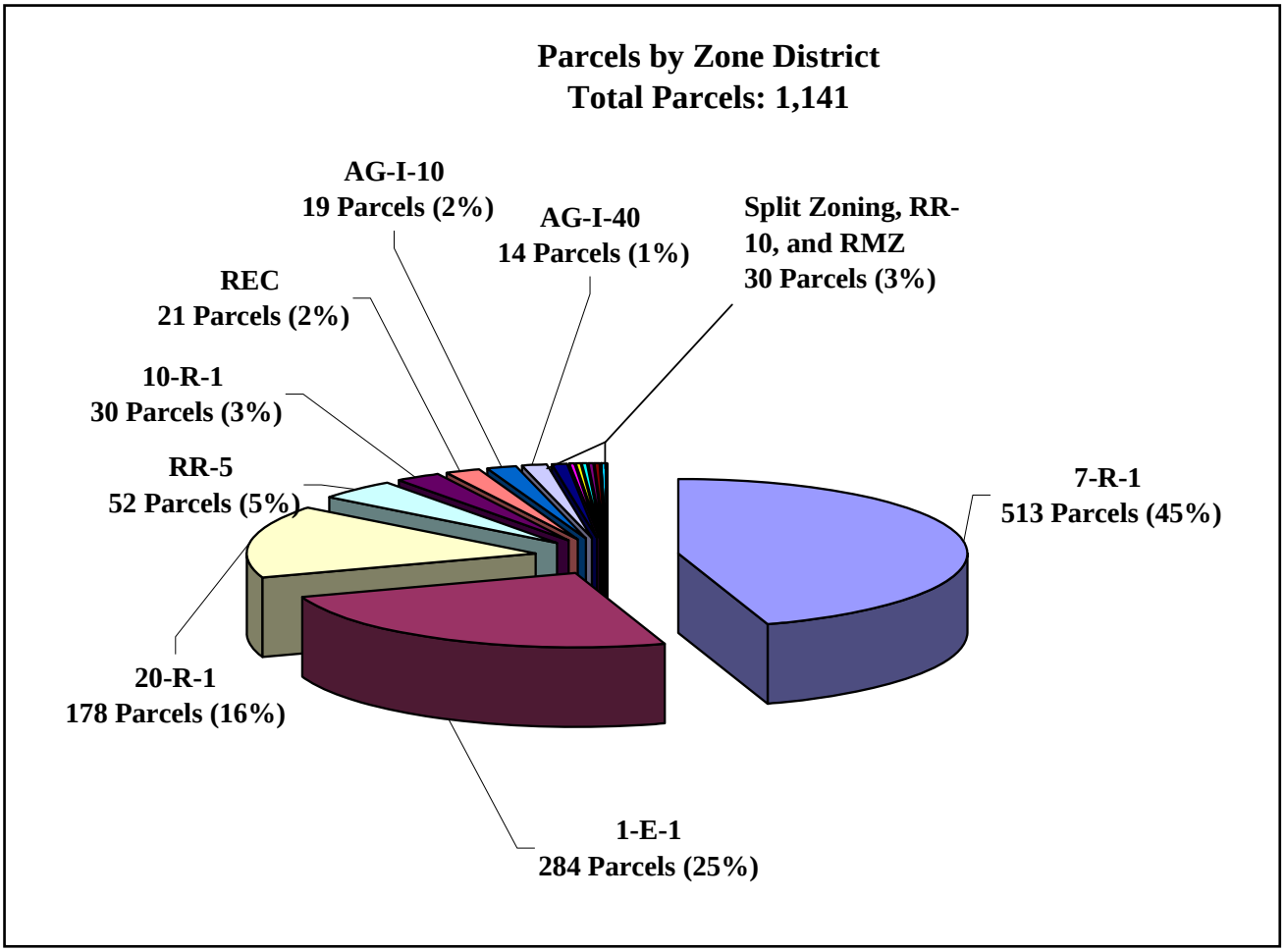


Figure 8 — Parcels by Zoning



c. Buildout Analysis

Total theoretical buildout for the Mission Canyon Plan Area under existing General Plan land use designations is included in Table 3. Table 4 shows buildout by vacant parcels and parcels with additional subdivision potential. The estimated buildout calculation does not account for limiting factors such as individual lot configurations or constraints. Buildout also assumes the approval of lot split applications on existing parcels large enough to be split into one or more new lots and subsequently developed with a new unit. For example, if a 3-acre parcel was zoned 1-E-1 (one-acre minimum lot and building site area) and had one existing unit, then 2 additional units could presumably be built on newly created lots of 1-acre each. Therefore, the number of additional potential units is very likely overestimated, particularly for lots with significant slopes, access issues, and/or septic system installation challenges. The last column in Tables 3 and 4 show total units at buildout, by adding existing units and potential units excluding additional development potential on parcels that are mostly sloped 30% and above. This number represents the most realistic estimate of buildout potential in the Mission Canyon.

Table 3: Buildout Analysis Under Existing Land Use and Zoning[9]

Land Use Designation	Zoning	No. of Parcels	Existing Units	Potential Additional Units	Potential Additional Units (excluding 30% or greater slopes)	Total Units at Buildout
A-1	AG-1-10	14	10	4	4	14
A-1/Residential Ranchette	AG-1-10 RR-10	6	6	0	0	6
A-1-40	AG-1-40	14	3	11	11	14
A-1-40/MA-40	40-E-1/AG-1-40	3	3	0	0	3
A-1-40/Residential Ranchette	RR-5/AG-1-40 RR-10/AG-1-40 AG-1-10	6	6	0	0	6
Other Open Lands	RMZ-100	1	0	1	1	1
Recreation/ Open Space	REC	21	4	15	15	19
RES-1.0	1-E-1	284	251	79	50	301
RES-1.0/RES-1.8	20-R-1/1-E-1	1	0	0	0	0
RES-1.0/ Residential Ranchette	RR-5/1-E-1	10	6	6	5	11
RES-1.8	20-R-1	177	162	38	33	195
RES-3.3	10-R-1	30	25	7	7	32
RES-3.3/RES-1.8	10-R-1/20-R-1	4	4	0	0	4
RES-4.6	7-R-1	510	489	80	17	506
RES-4.6/RES-1.8	7-R-1	3	3	0	0	3
Residential Ranchette	AG-1-10, RR-5, RR-10	57	40	16	14	54
TOTAL		1,141	1,012	257	157	1,169

Data Source: Santa Barbara County Assessor Office.

Note: Because some parcels are substandard in size, the number of parcels and number of potential units are not necessarily equal.

9 "Parcels" are based on Assessor Parcel Numbers, not legal lots for which a Certificate of Compliance or Conditional Certificate of Compliance has been recorded.

Table 4: Buildout Analysis including Total Acres and Number of Vacant Parcels or Parcels with Subdivision Potential

Land Use Designation	Zoning	Total Acres	Vacant Parcels	Existing parcels with additional subdivision potential	Potential Additional Units	Potential Additional Units (excluding 30% or greater slopes)	Total Units at Buildout
A-1	AG-1-10	62	4	0	4	4	14
A-1/ Residential Ranchette	AG-1-10 RR-10	39	0	0	0	0	6
A-1-40	AG-1-40	139	11	0	11	11	14
A-1-40/MA-40	40-E-1/AG-1-40	122	0	0	0	0	3
A-1-40/ Residential Ranchette	RR-5/AG-1-40 RR-10/ AG-1-40 AG-1-10	30	0	0	0	0	6
Other Open Lands	RMZ-100	10	1	0	1	1	1
Recreation / Open Space	REC	85	17	0	15	15	19
RES-1.0	1-E-1	299	33	17	79	50	301
RES-1.0/RES-1.8	20-R-1/1-E-1	0.3	1	0	0	0	0
RES-1.0/ Residential Ranchette	RR-5/1-E-1	16	4	1	6	5	11
RES-1.8	20-R-1	104	15	17	38	33	195
RES-3.3	10-R-1	8	5	4	7	7	32
RES-3.3/RES-1.8	10-R-1/20-R-1	2	0	0	0	0	4
RES-4.6	7-R-1	113	21	33	80	17	506
RES-4.6/RES-1.8	7-R-1	0.5	0	0	0	0	3
Residential Ranchette	AG-1-10, RR-5, RR-10	148	17	2	16	14	54
TOTAL		1,178	129	74	257	157	1,169

Data Source: Santa Barbara County Assessor Office.

Note: Table 3 and 4 project buildout of primary land uses only, not potential secondary uses on a site. Therefore, residential second units are not included in these tables because they are prohibited. The data showing potential additional units with the constraint of slopes of 30% or higher was based on reviewing buildable area on the Mission Canyon Slope and Vacant Parcel Map dated December

2006. This map provides a general indication of slopes; site-specific slope maps would be required for development.

3. LAND USE GOALS, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL LU-MC-1: **Assure that development does not exceed the availability of adequate services and infrastructure to provide for public health and safety within an area with limited ingress and egress.**

Policy LU-MC-1: **The County shall recognize that the Mission Canyon Community Plan Area is a constrained community with respect to fire hazard, parking and circulation, flooding and drainage, wastewater and geology, hillsides and topography, and shall require that future development is adequately served by existing services and infrastructure.**

Policy LU-MC-2: **Residential second units shall be prohibited in the Mission Canyon Very High and High Fire Hazard Severity Zones as mapped by the State of California.**

Action LU-MC-1.1: The Land Use & Development code shall be amended upon Community Plan adoption to prohibit residential second units in the Very High and High Fire Hazard Severity Zones in Mission Canyon.

GOAL LU-MC-2: **Protect the semi-rural quality of life by encouraging excellence in architectural and landscape design. Promote area-wide and neighborhood compatibility and protect residential privacy, public views and, to the maximum extent feasible, private views of the mountains and ocean.**

Action LU-MC-2.1: Residential Design Guidelines shall be adopted upon Community Plan adoption to apply to all new residential development and remodels subject to approval by the South Board of Architectural Review.

GOAL LU-MC-3: **Maintain an environment where the relative quiet of the community is a recognized value.**

Policy LU-MC-3: **The public shall be protected from continuous noise that could jeopardize health and welfare.**

DevStd LU-MC-3.1: Stationary equipment, such as air conditioning units, pumps, and generators, that could generate noise exceeding 65 dB(A) at property boundaries shall be shielded to County Planning & Development's satisfaction, and shall be located a minimum of two hundred (200) feet from sensitive receptors.

B. PLANNING FOR POST-DISASTER RECOVERY AND RECONSTRUCTION

1. SETTING AND BACKGROUND

Experience shows that in areas stricken by natural disasters (wildfire, earthquake, floods, etc.) recovery and reconstruction often become an emotional debate. It pits victims' desire for a quick return to the status quo (often with unsafe development patterns and construction techniques) against the opportunity to use post-disaster reconstruction to create a community that is more resistant to a future recurrence. Mission Canyon is a designated Very High and High Fire Hazard Severity Zone in which State and County land use, development and building code regulations govern the wildland-urban interface area. Consequently, prudent planning in our area includes "hazard mitigation": plans, policies and actions that reduce or eliminate the long-term risk to life and property. Planning for post-disaster reconstruction provides a mitigation-driven vision of what a community could become in the aftermath of a foreseeable natural disaster.[10] Such planning attempts to balance the desire for rapid recovery while maintaining and enhancing the community's aesthetic qualities and creating a safer community better able to resist future disasters.

2. ISSUES

After the October 1991 Oakland Hills fire disaster, by far the worst of all the urban/wildland interface disasters in U.S. history, public controversy centered on the same problems currently plaguing Mission Canyon: street widening, on-street and off-street parking regulations, building height, bulk and scale, setbacks, vegetation management, and water supply.[11] In hindsight, had pre-event planning occurred in Oakland, the post-disaster reconstruction period could have avoided repeating some of the same unsafe conditions that contributed to the disaster's intensity.

Pre-disaster planning

Planning for possible disasters is both an individual and community responsibility. Proactive individual responsibilities include: creating defensible space surrounding one's home in accordance with fire department regulations; maintaining a family emergency preparedness plan (including preplanning for evacuation) and disaster kit; and keeping in a safe, fireproof place important papers including home insurance and building plans. Homeowners are encouraged to check with their insurance agents to ensure that they are adequately covered and that policies can cover the costs to rebuild to new building code and ordinance requirements. During post-disaster reconstruction, some off-site building costs (i.e., new fire hydrants, wider driveways etc.) may possibly be ineligible for coverage.

Fire-related regulations

New fire-related building code regulations have been adopted for the California Building Code (referred to as the Wildland-Urban Interface Fire Area Building Standards) that require ignition resistant construction standards in areas located in any fire hazard severity zone within State Responsibility Areas (in Mission Canyon all areas North of Foothill), any very high fire severity zone in Local Agency Responsibility Areas (all areas South of Foothill) and any Wildland-Urban

10 American Planning Association, Planning for Post-Disaster Recovery and Reconstruction, Planning Advisory Service, Report No. 483/484, (Chicago, IL: 1998), pg. 19.

11 Ibid, pg. 262.

Interface Fire Area designated by the enforcing agency. Adherence to these new fire-related building codes will help to ensure that reconstruction will reduce future vulnerability to wildfire in the Canyon.

Narrow Private Roads

Many, if not most, of the private roads in Mission Canyon do not currently meet County Fire Department standards for width (minimum 24 feet) and/or the requirement for a 40 or 48 foot radius bulb turnarounds at the end of dead-end roads. Post-disaster reconstruction planning provides an opportunity for property owners to establish proper road widths and turnarounds on private lanes serving multiple residences.

Narrow Public Roads

Public roads within the Canyon are an important element of the character and charm of the area. They are also likely to be a hazard during natural disasters. Post-disaster reconstruction would provide a unique opportunity to restructure public roads to improve emergency ingress and egress, preserve the character and ambiance of the Canyon community, and provide for enhanced pedestrian and bike access.

Size, Bulk and Scale

As shown following the 1990 Painted Cave fire in Santa Barbara, many residents choose to rebuild larger structures with different architectural styles during post-disaster reconstruction. However, rebuilding larger structures runs counter to reduced fire vulnerability, community character and to the larger benefit of building energy efficient structures. Although the Land Use & Development Code (LUDC) exempts permitting requirements for the replacement of a conforming damaged or destroyed structure if the replacement structure is in the same general footprint location as the damaged structure, in the same size or only slightly larger, and no exterior design or specifications are changed,[12] further incentives could be developed to encourage applicants to take advantage of rebuilding modest-sized homes. The Residential Design Guidelines are the guidepost for residents, designers, builders and decision-makers for designing and approving post-disaster residential structures that differ from what existed on site.

Nonconforming Uses, Structures and Lots

The County differentiates between nonconforming uses, structures and lots, defining each separately in the LUDC.[13] A nonconforming use is the use of a property for a purpose not permitted in the zone district, for example, operating a store or factory in a residential zone. A nonconforming structure is a structure that is used for a purpose which is allowed in the zone district, but which does not conform in some other manner, for example, a building which is too tall for the zone district, or is built too close to the property line. A nonconforming lot is a lot that is smaller than the minimum size allowed in the zone district or which does not meet the width/depth ratio of the zone district. There is a distinct difference between a nonconforming structure, built before a modern zone district was applied, and illegal structures built without permits and/or within current setbacks etc.

A nonconforming structure or a structure dedicated to nonconforming residential use that is damaged or destroyed may be reconstructed in the same or lesser size and in the same general footprint. Subject to provisions in the LUDC, the replaced structure may also be exempt from permit

12 Santa Barbara County Planning & Development, Land Use & Development Code (2007), Section 35.20.040, pg. 2-8.

13 Ibid, Section 35.101.020, pg. 10-7.

requirements and design review. Full compliance with current Building Code provisions is still required. A way to maintain the character and ambiance of Mission Canyon is to ensure that current building codes standards are met while maintaining the architectural or historic characteristics of the original building.

Emergency Egress

Although informal emergency egress routes have been explored in Upper Mission Canyon, there are no established routes readily available for public use. Canyon residents should work with County and City staff and property owners to establish ingress and egress routes to be used in certain emergency situations when warranted.

3. POST DISASTER RECONSTRUCTION GOAL, POLICY, AND ACTIONS

GOAL PDR-MC-1: **In the aftermath of disaster, the Mission Canyon community should be rebuilt so that it can survive a future natural disaster with minimum loss of life and property while maintaining and enhancing its character and charm.**

Action PDR-MC-1.1: The County and Mission Canyon community shall establish a plan to facilitate post-disaster reconstruction with the aim of providing a vision for decision makers and some framework within which decisions will be made. The plan may include: development of an efficient post-disaster permitting process such as an ad hoc South Board of Architectural Review Committee for project review, Mission Canyon Architectural Design Review Committee fast-track recommendations to the South Board of Architectural Review, incentives to maintain community character, and other recommendations as developed by the County and community.

Policy PDR-MC-2: **During reconstruction of damaged and destroyed structures, the County shall regain the public right- of-way (e.g., remove encroachments such as walls, fences, and landscaping) along key ingress and egress roads (Mission Canyon, Tunnel, Cheltenham, and Tye Roads) within the Canyon. Regained rights-of-way shall be for the purpose of meeting minimum Public Works road width standards and to improve pedestrian and bicyclist circulation.**

Action PDR-MC-2.1: The County and Mission Canyon community shall establish a plan to develop additional ingress and egress routes to and from the Canyon that can be used in an emergency. .

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SECTION III
Public Facilities and Services

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A. FIRE PROTECTION\HAZARDS

1. SETTING

a. Fire Hazard Setting

Wildland fire hazard has always threatened the Mission Canyon area. The east-west trending Santa Ynez Mountain range dominates the area and makes the Santa Barbara front country prone to local Santa Ana and Sundowner wind conditions. Terrain is steep, rocky, and covered with chaparral vegetation that has adapted over millions of years with fire part of its natural ecosystem. The chaparral is highly flammable and designed to burn. Landscape vegetation also covers much of the developed canyon.

Santa Barbara's front country shows a major wildland fire occurring on average every ten years (Figure 9). Recent large wildfires include: The 1964 Coyote Fire that burned 67,000 acres, destroyed 106 homes, and resulted in 1 death; the 1971 Romero Canyon Fire that burned 14,500 acres, destroyed 4 homes, and resulted in 4 deaths; the 1977 Sycamore Canyon Fire that burned 805 acres and destroyed 195 homes; and the 1990 Painted Cave Fire that burned 4,900 acres, destroyed 479 homes, and resulted in 1 death.

Mission Canyon Fire Protection Areas and Agencies

The State Board of Forestry designates fire protection responsibility areas for federal, state, and local agencies. Federal agencies such as the U.S. Forest Service have responsibility to provide wildland resource fire protection on all Federal Responsibility Area (FRA) lands, including Forest Service land within the Mission Canyon Community Plan Area. To more efficiently provide protection over a more contiguous land base, federal agencies trade protection areas with the California Department of Forestry and Fire Protection (CAL FIRE). The resulting lands are called State Direct Protection Areas or Federal Direct Protection Areas.

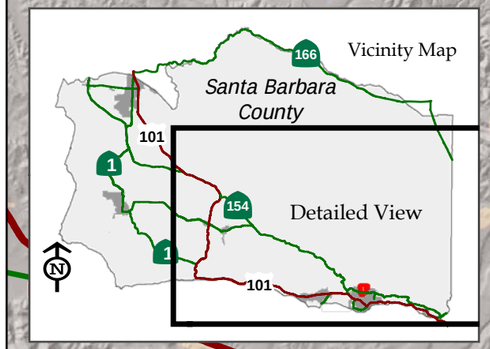
State Responsibility Area (SRA) lands are designated by the State Board of Forestry. The state assumes financial responsibility for protecting natural resources on these lands from damage by fire. CAL FIRE has legal responsibility to provide wildland resource fire protection on all SRA lands, including the financial responsibility for preventing and suppressing fires. Within Santa Barbara County, the Santa Barbara County Fire Department is a contract county for CAL FIRE, and under contract, provides wildland resource fire protection and prevention efforts on SRA land. SRA lands within Mission Canyon are located north of Foothill Road and encompass approximately 870 acres. South of Foothill Road, there are an additional 160 acres of Local Responsibility Area (LRA) within Mission Canyon where fire protection is under the jurisdiction of the Santa Barbara County Fire Department.

County Fire Department

County Fire Department Station No.15 is located at 2941 Foothill Road and is the primary station serving Mission Canyon. Station No. 15 is staffed by 9 firefighters who operate on a 3-shift rotation (3 firefighters per shift). Available ground equipment includes: one-Type 1 Engine, and one-Type 3 Brush Truck. All of the firefighters have Emergency Medical Technician training (EMT-1) and provide first response medical services. Paramedic and ambulance service is provided by American Medical Response under contract to the County of Santa Barbara.

Figure 9 — Fire History of South Coast

Fire History of the South Coast 1898 - 2007



Zaca Fire
over 240,000 acres

1993
MARRE
43,201 Acres

1933
INDIAN CYN
38,223 Acres

1997
JANEWAY (SPOT)
3 Acres

1997
JANEWAY
445 Acres

1950
SAN MARCOS FIRE
10,690 Acres

1998
OGILVY
4,029 Acres

1979
BRAD
136 Acres

1950
SAN MARCOS
10,690 Acres

1981
REY
2,257 Acres

1981
REY
1,638 Acres

2000
OAK
187 Acres

1923

1971
CIELLO
2,546 Acres

1999
CAMUESA
175 Acres

1985
WHEELER #2
122,687 Acres

1955
REFUGIO
79,429 Acres

1981
REY
2,244 Acres

1987
MATIAS
428 Acres

1932
MATILIJA
219,999 Acres

2004
GAVIOTA
7,443 Acres

1968
JOSE
50 Acres

1964
COYOTE
65,339 Acres

1979
EAGLE CANYON
3,765 Acres

1926
SAN JOSE
384 Acres

1990
PAINT
4,425 Acres

1923

1917

1914

1924

1939

1939

1914

1977
SYCAMORE
679 Acres

1913

1971
ROMERO
15,650 Acres

1898
LOS PADRES
20,540 Acres

1990
LOS PADRES
20,540 Acres

1980
TORO PARK
77 Acres

1964
POLO
684 Acres

1913
RINCON CREEK
1,760 Acres

1948
WEST CASITAS PASS
101 Acres

1956
LA CONCHITA
449 Acres

Buellton
Solvang
Los Olivos
Ballard
Santa Ynez
Goleta
Isla Vista
Hope Ranch
Montecito
Santa Barbara
Carpinteria
Lake Cachuma
Gibraltar Reservoir
Jameson Lake
Pacific Ocean

Mission Canyon
Plan Area

Legend

- Zaca Fire Aug. 29, 2007
- Fire Perimeter for named fires (multicolored)
- Fire Perimeter for unnamed fires (year only labeled)
  (Only unnamed fires within a 2 mile radius of MCCP boundary shown)
- Other Interior Fires
- Mission Canyon Community Plan Boundary
- Los Padres NF Administrative Boundary

0 1 2 4 Miles

G:\GROUP\MAPPING\AR14MAPS\Mission Canyon\MCCP Fire history w ZacaFire.mxd April 1, 2008

The Fire Department's 2008/2009 Capital Improvement Plan includes a proposal to replace Station 15 with a new, 6,800 square foot station at the present site. This construction project is currently un-funded and the County will need to secure additional funding for the Fire Department in order to construct this necessary capital improvement. In 2007, Station 15 responded to 288 calls for emergency service: 50.1 percent of those calls occurred within Mission Canyon; 48 percent of the total calls for emergency service were for medical emergencies. The remaining calls were primarily for structure fires, brush fires, vehicle accidents, and mutual assistance.

The Fire Department actively participates in the land development application review process for all new development within the Mission Canyon Special Problem Area. This provides the opportunity to review development early in the process and address emergency access, water supply, vegetation management, and fire protection systems (e.g. sprinklers, fire hydrants, etc.). Through this process, older structures are progressively made more fire safe as permit applications for remodels and additions shall meet current building and fire codes.

b. Fire Protection Standards

The Santa Barbara County Fire Department employs the following three standards with respect to provision of fire protection services:

1. A firefighter-to-population ratio of one firefighter on duty 24-hours a day for every 2,000 in population is considered "ideal," although a ratio (including rural areas) of one firefighter per 4,000 population is the absolute maximum population that can be adequately served.

2. A ratio of one engine company per 16,000 population, assuming four firefighters per station, represents the absolute maximum population that the Santa Barbara County Fire Department has determined can be adequately served by a four-person crew.

3. The third fire protection standard is a 5-minute response time in urban areas. This incorporates the following NFPA response-time objectives:
    a. One minute (60 seconds) for turnout time, and
    b. Four minutes (240 seconds) or less, for the arrival of the first-arriving engine company.

c. Fire Protection Components

Defense against wildfire hazards depends on a variety of factors, including: structural design features; adequate emergency responder access and resident evacuation; water supply and availability; and adequate defensible space and vegetation clearance around structures and along driveways. The following describes each of these factors as they relate to Mission Canyon.

Building and Fire Codes

The ability to protect structures during a fire is complex. Many of the residences in Mission Canyon were built before the adoption of building and fire codes that required non-combustible roofing and building materials. The County Building Code is continually updated to incorporate appropriate building standards, construction techniques and materials for building in high fire hazard areas.

In 2005, the California Building Commission adopted the Wildland-Urban Interface code effective January 1, 2008 for SRA's and July 1, 2008 for LRA's. The new codes include provisions for ignition resistant construction standards in the wildland urban interface. The updated fire hazard severity zones will be used by building officials to determine appropriate construction materials for new buildings in the wildland urban interface. Codes already in effect place standards on roofing, construction, and attic venting. The new codes require siding, exterior doors, decking, windows, eave, wall vents, and enclosed overhanging decks to meet new test standards. In early 2008, the County of Santa Barbara will formally adopt the new standards in the County Building Code.

Fire Hazard Severity Zones

Fire Hazard Severity Zones are used to designate where exterior wildfire exposure building codes apply to new buildings. Mission Canyon is located in the Very High Fire Hazard Severity Zone.

In conjunction with the Wildland-Urban Interface code, CAL FIRE has adopted updated Fire Hazard Severity Zone maps for areas of California where the state has fiscal responsibility for fire suppression efforts. CAL FIRE is also preparing mapping information for local agencies to designate by ordinance, for Very High Fire Hazard Severity Zones within in its jurisdiction. Mission Canyon is predominantly located in the Very High Fire Hazard Severity Zone (Figure 10).

Access and Evacuation Routes

In the wildland-urban interface area, evacuation from a wildfire is critically important. Being prepared and evacuating early can save lives. Each emergency situation is unique and during an emergency the situation can change very rapidly. For that reason the Fire Department has not prescribed fixed emergency evacuation routes. Instead, standard protocol is for residents to tune into local media for evacuation instructions when emergency personnel determine that evacuation is necessary. Foothill Road, Mission Canyon Road, Tunnel Road, and Cheltenham Road are the primary egress routes out of Mission Canyon.

Road systems (both roads and driveways) have a significant effect on emergency response, the safety of emergency responders, and the ability to safely evacuate the public during a wildfire. Fire and other emergency first responders must use the same path to gain access to fire that residents and visitors use to evacuate. Many roadways and driveways serving Mission Canyon were built prior to current roadway and access standards. The narrow, winding, and often steep roadways in the upper canyon north of Foothill Road pose a serious problem, especially if further constrained by on-street parking and vegetation encroachment.

Fire Flow and Water Pressure

Existing water supply and pressure throughout the Canyon is generally adequate to meet structural fire suppression needs. Fire hydrants located throughout the Canyon (Figure 11) permit the fire department first responders to employ traditional fire attack tactics and strategies on fires occurring within residential areas and to support attack and defense operations related to wildland fires. County Fire Department fire hydrant spacing and flow rate requirements for one-and-two family dwellings are listed below in Table 5. Fire hydrant spacing is measured as the distance between fire hydrants while traveling along an approved access road. In residential areas, this distance shall be a maximum of 500 feet.

Figure 10 — Fire Hazard Severity Zones

(To be added at a future date)

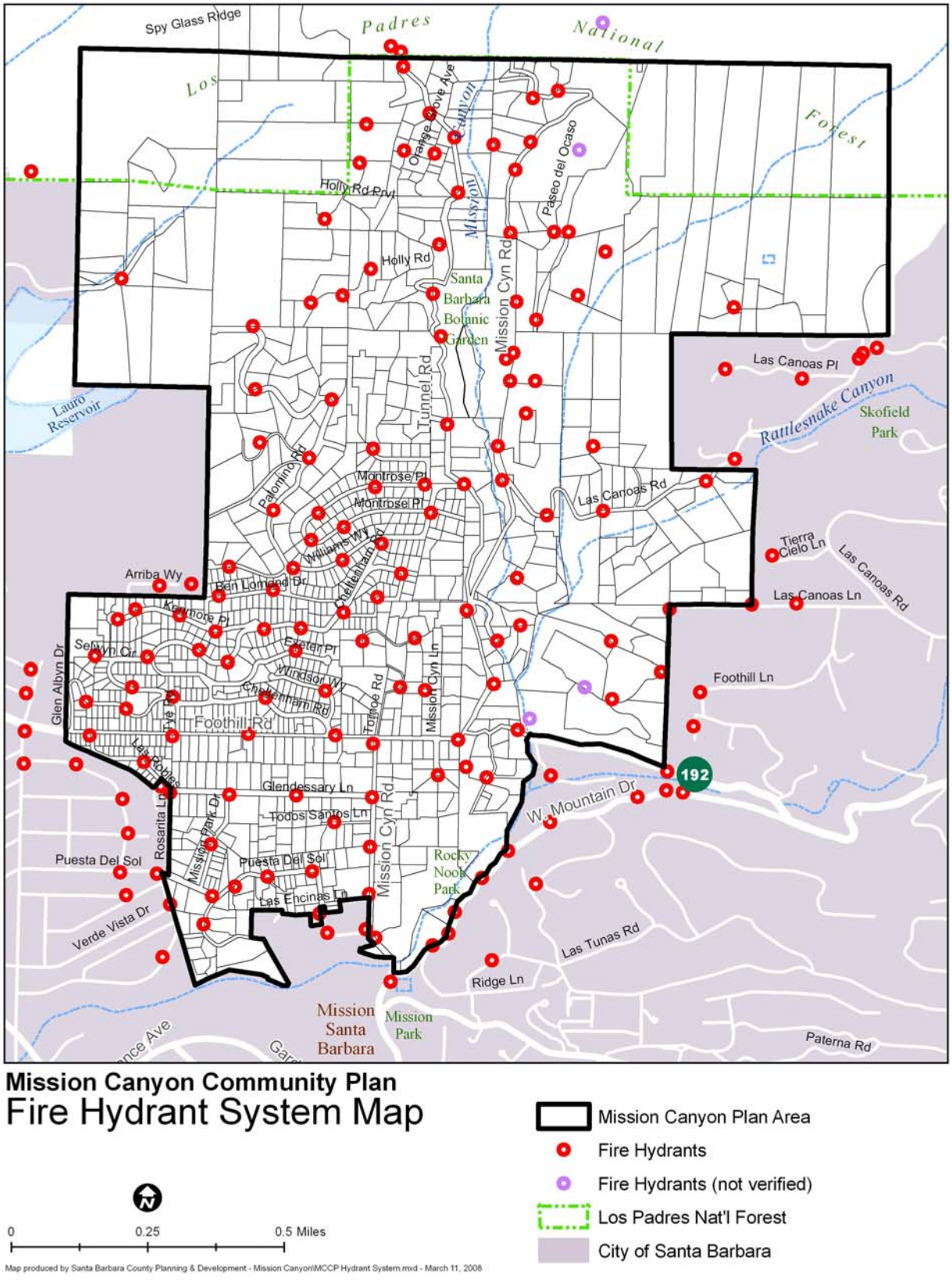


Figure 11 — Fire Hydrant System

The Fire Hydrant System Map does not take into account topographic constraints and is for illustrative purposes only.

Table 5: Fire Hydrant Spacing and Flow Rates[14]

Area Type\Acres	Hydrant Spacing	Hydrant Flow Rate (gallons per minute)
Very High Fire Hazard Severity Zone	500 ft	1000 gpm
Urban & Rural Developed Neighborhood	500 ft	750 gpm
Rural 5 to 10 Acres	600 ft	500 gpm
Rural Over 10 Acres	800 ft	500 gpm
40 Acres and Over	See Fire Dept. Development Standard #3 for Stored Water	See Fire Dept. Development Standard #3 for Stored Water

Vegetation Management

In January 2005 a new state law became effective (SB 1369) that extended the required defensible space clearance around homes and structures from 30 feet to 100 feet. Proper clearance to 100 feet dramatically increases the chance of a house surviving a wildfire. This same defensible space also provides for firefighter safety when protecting homes during a wildland fire.

As part of the permit application process, the County Fire Department requires a vegetation management plan to be approved prior to the erection of combustible materials. The vegetation management plan includes ongoing requirements for removal of dead vegetation, litter, vegetation that might grow into overhead electrical lines, certain ground fuels and ladder fuels, as well as the thinning of live trees. The Fire Department also implements an annual fuel hazard abatement program, which notifies property owners to abate fire hazards on their land. Property owners have approximately three weeks to meet the requirements for clearing property identified in the abatement notice.

Mission Canyon Association

The Mission Canyon Association (MCA) is actively involved in fire safety preparedness for Canyon residents. The association helps to educate homeowners of their responsibility to maintain defensible space and sponsors annual brush clearance and "chipper" days to reduce fuel buildup. Since 2000, these events have removed 331 tons of brush from the Canyon. The MCA Fire Safe Committee has also been successful in securing U.S. Forest Service Fire Safe Grants to clear vegetation along key roadways and a vegetation management grant to establish a continuous east-west fuel break at the top of Mission Canyon.

Mission Canyon Community Wildfire Protection Plan

The County Fire Department and Mission Canyon Association (MCA) have been working to develop the Mission Canyon Community Wildfire Protection Plan (CWPP). The CWPP will incorporate provisions of the Fire Department's Wildfire Protection Plan and the MCA's Fire Plan into a single plan meeting the objectives of the Healthy Forests Restoration Act. The strength of the Mission Canyon CWPP is that it brings together the community, businesses, government, and fire agencies under a single collaborative plan that serves as a template for wildland fire prevention, fuels reduction, and project uniformity. The CWPP is designed to meet requirements for future National Fire Plan and other government funding sources.

The objective of the Mission Canyon CWPP is to:

14 Santa Barbara County Fire Department, Fire Prevention Division.

- Identify priority projects to reduce risks and hazards from wildfire while protecting conservation values in Mission Canyon and the CWPP boundary;
- Provide fire safety educational information to residents of Mission Canyon and vicinity;
- Provide a positive balance among fire prevention, conservation, and community planning;
- Provide a guidance document for future actions of the Mission Canyon Homeowner's Association and local emergency service providers;
- Coordinate fire protection strategies across property boundaries; and
- Integrate private land management goals with community needs and expectations for fire safety.

2. PLANNING ISSUES

One of the key challenges Mission Canyon faces is how best to reduce fire hazards associated with fuel loading and limited emergency access within an established community which has developed over time prior to modern safety standards.

The policies and actions outlined in this plan address these challenges in a number of ways: through the application of new development standards to reduce parcel-specific and cumulative fire hazards; through implementation of critical action items (Action FIRE-MC-1.1, Action FIRE-MC-1.4, and Action CIRC-MC-3.2) to resolve parking and circulation constraints affecting emergency access; and through the pursuit of a long-term, sustainable fuel management program.

3. FIRE PROTECTION GOALS, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL FIRE-MC-1: **Maximize effective and appropriate prevention measures to reduce wildfire damage to human and animal life, property, and the Canyon ecosystem.**

Policy FIRE-MC-1: **Support collaborative fuels management projects between the County, the City of Santa Barbara, and Mission Canyon residents to encourage fire hazard reduction and protection of natural resources.**

Action FIRE-MC-1.1: The County shall work with Mission Canyon residents to prepare a feasibility study for developing a Wildland Fire Benefit Assessment District to provide additional fire prevention services to reduce the damage and severity of wildfires. Additional services may include: improvement of evacuation routes; defensible space inspection and assistance; development of on-street parking turn-outs and fire hydrants where needed; and vegetation management programs.

Action FIRE-MC-1.2: The County should develop affordable incentive programs to encourage homeowners to create and maintain required defensible space around homes. For creek properties, the incentive program should include a creek vegetation restoration/maintenance plan that balances riparian values, fire hazard, and risk on private lands.

Action FIRE-MC-1.3: Planning & Development shall amend the Mission Canyon Community Plan as Defensible Space Requirements and High Fire Hazard Area Landscape Guidelines are developed by the County Fire Department as part of the Mission Canyon Community Wildfire Protection Plan.

Action FIRE-MC-1.4: Santa Barbara Land Use and Development Code Section 35.42.230 shall be amended to prohibit Residential Second Units within the Mission Canyon Special Problem Area. The prohibition is due to the adverse impacts on the public health, safety, and welfare associated with increased population and residential density within the Very High and High Fire Hazard Severity Zones.

Policy FIRE-MC-2: Fire hazards in the Mission Canyon Plan Area shall be minimized in order to reduce the cost of, and need for increased fire protection services while protecting the natural resources in undeveloped areas.

DevStd FIRE-MC-2.1: Along access roads and driveways, limbing of oak tree branches shall be subject to the vertical clearance requirements of the California Fire Code and Santa Barbara County Fire Department development standards. To the maximum extent feasible, vegetation management practices shall not result in the removal of protected healthy oak trees. Treatment of oak trees not located along access roads and driveways shall be limited to removing dead materials, proper pruning, mowing the understory, and limbing up the branches to a maximum height of eight (8) feet off the ground.

DevStd FIRE-MC-2.2: Fire hydrants shall be required on both sides of a roadway whenever: 1) the roadway represents a main route out of the Mission Canyon area; or 2) if the Fire Chief, or his designated representative, determines the use of fire hydrants on the opposite side of the roadway may prove operationally difficult, or may create unsafe working conditions.

DevStd FIRE-MC-2.3: On all private roads, the Fire Department shall require half width road frontage improvements to meet current Fire Department Standards, or to the maximum extent allowable by easement, on any project which requires Special Problems Committee review.

DevStd FIRE-MC-2.4: Applicants for a land use permit shall demonstrate compliance with state defensible space requirements.

Action FIRE-MC-2.5: The County shall investigate the feasibility of establishing a utility undergrounding program throughout Mission Canyon for the purpose of fire hazard reduction.

Policy FIRE-MC-3: Ensure that adequate fire facilities and staffing are available to meet the needs of both existing and new development in Mission Canyon.

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B. PARKS, RECREATION & TRAILS

1. SETTING

a. Parks Setting

A hidden jewel located along the banks of Mission Creek amongst mature oak and sycamore trees is Rocky Nook County Park. This 19-acre park is located just minutes from downtown Santa Barbara, but once there, visitors feel miles away. The park offers shaded picnic areas, hiking trails, horseshoes, a children's playground, and large sandstone boulders good for exploration and contemplation. County Parks Department administration offices are also located within the park.

The Comprehensive Plan Land Use Element establishes a minimum countywide standard of 4.7 acres of recreational/open space per 1,000 persons.[15] The projected population of Mission Canyon at buildout is approximately 3,016 persons[16], resulting in a minimum need of 14.9 acres. Rocky Nook Park meets that standard and is supplemented by additional parkland and hiking trails available to residents immediately adjacent to the Plan Area.

Vicinity Parks
Outside the Plan Area, but easily accessible to Mission Canyon residents, are a variety of public parks and open space areas within the City of Santa Barbara.

Mission Historical Park consists of ruins of Mission Santa Barbara's old waterworks, tannery vats, grassy areas, and the A.C. Postel Garden. The 8-acre piece directly across from the Mission was owned by the Franciscan Fathers and contains a portion of the aqueduct wall. The 2-acre piece north of Alameda Padre Sierra includes a filter house, grist mill, pottery, a reservoir, and aqueduct portions. The rose garden adjacent to the Mission contains an accredited All American Rose selection of over 1,500 plants.

Skofield Park is nestled high in the foothills just beyond the eastern Plan Area boundary on Las Canoas Road. The park provides large grassy meadows, walking and hiking trails, numerous native shade trees, and reservable picnic and barbecue sites in designated areas. It is also is the only city park with reservable camping areas for nonprofit youth groups. Adjacent to the park is Rattlesnake Canyon, a popular hiking trailhead that connects with other front country trails.

b. Trails Setting

In the South Coast, seven public trails (Romero, Cold Springs, San Ysidro, Jesusita, Rattlesnake, Tunnel, and Gaviota State Park trails) provide hikers, bicyclists, and equestrian's access to the Los Padres National Forest and remote, scenic areas not served by roads. Tunnel Trail is accessed within the Plan Area at the end of Tunnel Road, while the Rattlesnake trailhead is just outside the Plan Area on Las Canoas Road.

15 Santa Barbara County Land Use Element (1980), pg. 52.

16 Table 1: Buildout Analysis (1,169 units x 2.58 persons per household). Persons per household based on average for South Coast Housing Market Area.

The Parks, Recreation and Trails (PRT) portion of the Land Use Element of the Comprehensive Plan was adopted by the Board of Supervisors in 1980. The official Parks, Recreation and Trails map (PRT-3) for the Santa Barbara area includes Mission Canyon within its boundaries and is a planning tool for identifying existing trail easements and proposed trail corridors for possible future acquisition.

Figure 12 represents an update of PRT-3 for the Plan Area with minor revisions. The PRT-3 update includes the addition of two proposed on-road trail segments along Mission Canyon Road: from Foothill Road south to Mission Creek; and from Las Canoas Road north to the Santa Barbara Botanic Garden entrance. Two types of roadside and off-road trails are depicted:

- Existing Trail – The trail is legally dedicated to the County of Santa Barbara, U.S. Forest Service, Montecito Trails Foundation or other nonprofit group. The trail is usually in the form of a ten (10) to fifteen (15) foot wide easement containing an approximately four (4) to six (6) foot wide trail tread.

- Proposed Trail – The trail is not yet legally dedicated for public use. The acquisition of these trail sections will eliminate gaps in individual trails or provide new trail opportunities within a comprehensive dedicated trail system.

2. PLANNING ISSUES

County policy maintains that all public trails be designated for multi-use (available for hiking, horseback riding, and cycling) with exceptions for a few existing trails specifically designated for hiking and/or equestrian use only in the Grants of Easement. Of particular importance are trail location, design, and provision of trailhead amenities such as trail signage and maps, parking, and trash disposal. Education and public involvement begins as early as trail layout and design and knowledge about various trail activities help to minimize use conflicts and reduce the risk of injury. The existing and proposed trails in the Plan Area serve to provide recreational opportunities for local residents and visitors with access to established front country trails, local parks, semi-rural neighborhoods, scenic corridors, and historic and cultural destinations within Mission Canyon.

Guidelines (Appendix B) have been developed to assist in the siting, design, construction and implementation of trails within trail corridors and to guide review of these corridors for future trail implementation. The guidelines also address access control and maintenance, as well as biological, agricultural, and archaeological/historic resources.

Liability questions are often raised by landowners regarding potential trail corridor locations. The Recreational Use Statute (California Civil Code § 846) frees private landowners from liability for injuries sustained by people who enter their land free of charge for recreational purposes. This includes individuals who are permitted to enter the land on a trail easement as well as trespassers, but not those who are expressly invited by the landowner. Other concerns include:

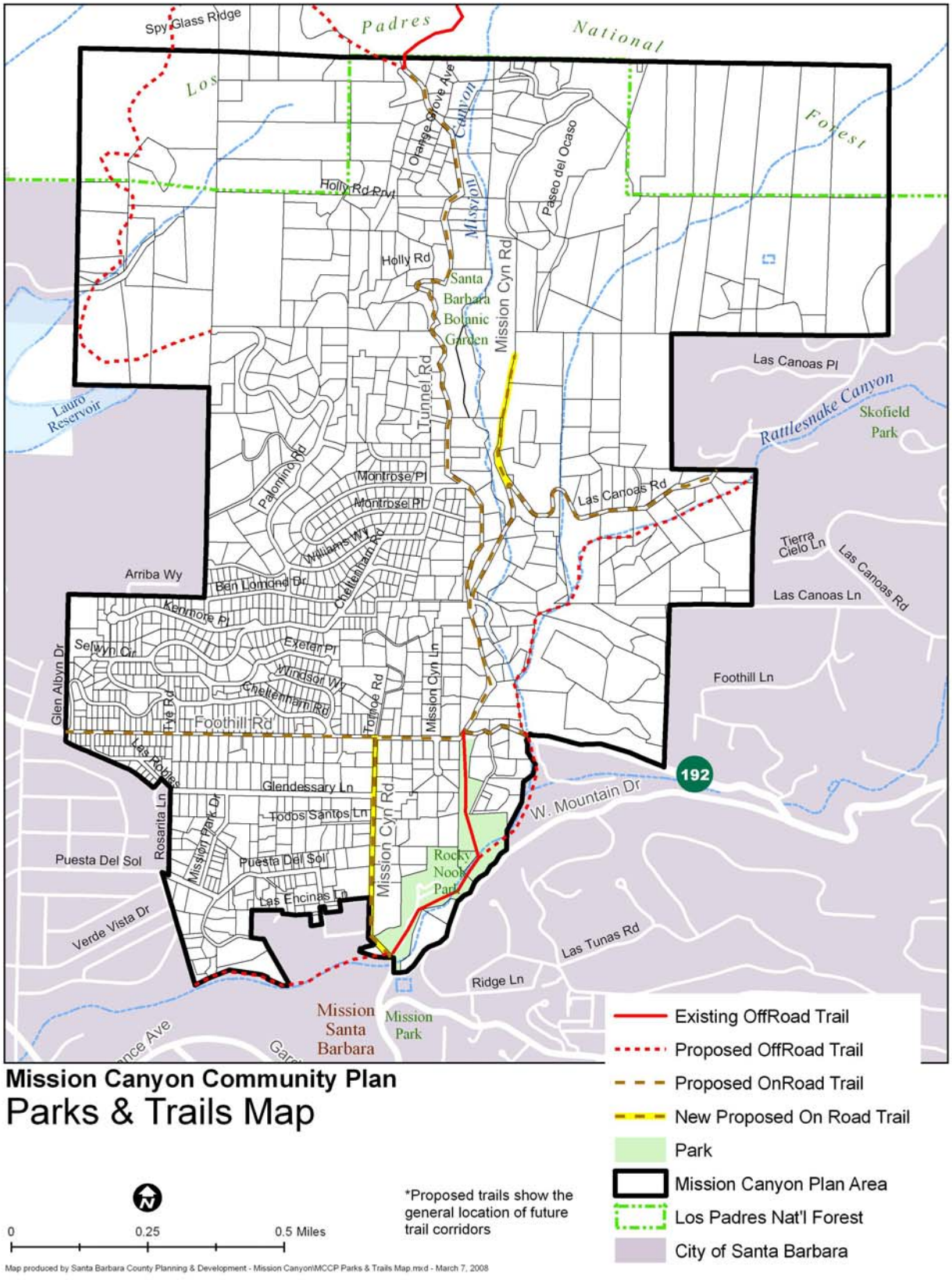

Figure 12 — Parks, Recreation and Trails Map (PRT-3)

- **Staging/Parking areas** - Many proposed trails and existing legal county easements do not have adequate parking available at trailheads.
- **Encroachments** - Trail use on shoulders of County road rights-of-way sometimes become impassable due to private property owner fencing or vegetation overgrowth.
- **Fragmentation** - Many trail easements held by the County are not contiguous with existing trails and the connectivity of existing trails is extremely limited.
- **Aesthetics** - Development next to trails can obstruct public views from trails.

These issues would be addressed during the design and siting of a trail.

3. PARKS, RECREATION & TRAILS GOALS, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL PRT-MC -1: Protect and provide public recreational opportunities for residents and visitors, including maintaining access and a balance of users for hiking trails.

Policy PRT-MC-1: The County shall ensure that trails provide users with a recreational experience appropriate to the quiet, semi-rural nature of the area.

DevStd PRT-MC-1.1: Development adjacent to off-road trail easements shall include setbacks and, where appropriate, landscaping to minimize conflicts between use of private property and public trail use. New structures shall be sited at least 50 feet from the edge of trail easements unless it would preclude development of a parcel to such extent that an unconstitutional deprivation of property occurs.

DevStd PRT-MC-1.2: On-road trail development design shall maximize road shoulder width to separate trail users from vehicular traffic.

DevStd PRT-MC-1.3: Trailhead parking shall be sited and designed to minimize disruption to existing neighborhoods, and shall not impede emergency vehicle access.

Action PRT-MC-1.4: The County shall investigate all obstructions to existing dedicated public trails and property and take appropriate action to remove any such obstructions.

Action PRT-MC-1.5: All opportunities for public trails within the general corridors identified on the Parks, Recreation and Trails (PRT) map shall be protected, preserved and provided for during review and upon approval of development and/or permits requiring discretionary approval. County Public Works shall consult with the County Park Department prior to issuing any encroachment permits for on-road development such as driveways along road shoulders with current or proposed trails.

Action PRT-MC-1.6: The County shall actively pursue acquisition of interconnecting usable public trails within designated trail corridors through negotiation with property owners for purchase, through exchange for surplus County property as available, or through acceptance of gifts and other voluntary dedications of easements.

Action PRT-MC-1.7: The County shall support the efforts of volunteer trail organizations and encourage their efforts to clear trails. County support may include, but not be limited to: coordinating volunteer efforts, designating a liaison between volunteer groups and the County Park Department, providing information on grant opportunities, and facilitating communication between trail organizations.

Action PRT-MC-1.8: The County shall coordinate with adjoining property owners regarding the feasibility of siting an off road trail which would extend north from the Tunnel Road/Mission Canyon Road "Y" area to the Tunnel Road Trail.

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C. CIRCULATION AND PARKING

1. EXISTING SETTING

a. Local Roadway Network

The primary roadways serving the Mission Canyon Community Plan Area include Foothill Road (State Route 192), Mission Canyon Road, Tunnel Road, Las Canoas Road, and Cheltenham Road.

Foothill Road (State Route 192) is a two-lane state route that traverses the Santa Barbara foothills and provides an alternate east-west travel route to access Highway 154 and Highway 101 to the west, and Montecito and Carpinteria to the east. One travel lane is provided in each direction and parking is not permitted. The posted speed limit on Foothill Road in the Plan Area is 35 miles per hour (MPH).

Mission Canyon Road (south) is a north-south arterial road which extends from Foothill Road through the southern Plan Area and into the City of Santa Barbara. This segment of Mission Canyon Road is a scenic thoroughfare which most accurately depicts the semi-rural character often associated with Mission Canyon. The roadway is popular with residents and pedestrians exploring the recreational, cultural and historic venues in the area including Rocky Nook Park, the Santa Barbara Museum of Natural History, and Mission Santa Barbara.

Mission Canyon Road (north) is a north-south collector road which extends north from Foothill Road and provides access to Tunnel Road, Las Canoas Road, and the Santa Barbara Botanic Garden. One through travel lane is provided in each direction with average lane widths of 10-11 feet.

Tunnel Road is a north-south oriented collector extending north from Mission Canyon Road terminating at the Tunnel Road trailhead. Each through travel lane has a width of approximately 11 feet and is unimproved on both sides of the street (i.e., no curb, gutter, or sidewalk). In some areas, shoulders are paved allowing on-street parking.

Las Canoas Road is a narrow, east-west oriented collector that extends from Mission Canyon Road through the eastern Plan Area providing access to Skofield Park, Rattlesnake Canyon, and foothill neighborhoods within the City of Santa Barbara.

Cheltenham Road is a narrow winding collector road which provides direct access to Foothill Road for residents in the Mission Canyon Heights neighborhood.

b. Transit, Bicycle, and Pedestrian Access

Transit Service

Santa Barbara Metropolitan Transit District (MTD) provides the general public with fixed route service. Route 22, the Old Mission line, serves as the only fixed route transit line in Mission Canyon linking the major commercial areas of downtown Santa Barbara and the historic and cultural destination points of Mission Santa Barbara and the Museum of Natural History. On weekends, line 22 also provides on-request bus service to the Santa Barbara Botanic Garden between 10:35 AM and 4:35 PM. Bus riders traveling to and from the Botanic Garden on the weekend can use the MTD

courtesy phones located at the bus stop or use the MTD bus request phone numbers to request service at the Botanic Garden.

Pedestrian and Bicycle Accessibility

Because of Mission Canyon's scenic views and hiking trails, the Canyon attracts many outdoor enthusiasts including cyclists, horseback riders, and hikers. None of the roads in Mission Canyon are designated or signed/striped for bicycle use. As a result, bicyclists and pedestrians must share the road with motorists. In certain areas, such as Tunnel Road, narrow roadways, on-street parking, and other encroachments within the road shoulder right-of-way make sharing the road difficult for bicyclists and pedestrians.

c. Parking and Emergency Access

Many of the roadways and driveways serving Mission Canyon were built prior to current roadway and access standards. While data indicates the average right-of-way (ROW) widths range from 25 to 60 feet (Figure 13), the actual paved travel lanes for many roadways are 20 feet or less. This situation is due in part to irregular parcel surveys of the public right-of-way. Over time, incremental encroachment of landscaping, walls, fences, and utilities within the actual ROW occurred because the paved roadway was used incorrectly as a guide to establish property boundaries. Especially problematic are the narrow, winding, and often steep roadways in the upper Canyon north of Foothill Road. Access to these areas can be further constrained by on-street parking.

On-Street Parking

On-street parking constraints affect only certain areas in Mission Canyon. The majority of the on-street parking congestion is located in the western portion of Mission Canyon throughout neighborhoods in Mission Canyon Heights, as well as the upper reaches of Tunnel Road. In addition to resident and guest parking, the limited right-of-way is often used to park boats, motor homes, and trailers. On-street parking creates traffic flow problems by reducing the effective travel area often down to a single lane width.

Another concern is the heavily used public trail at the end of Tunnel Road. The upper reach of Tunnel Road becomes highly constrained as trail users park along the pavement edge to access this popular trail. The County recently installed additional No Parking signage and edge striping to improve the situation, but the continued high trail use requires a long term trailhead parking solution.

Residential parking solutions are necessary to not only address residential parking needs, but more importantly to allow unconstrained emergency vehicle access and maintain vital egress routes out of the Canyon.

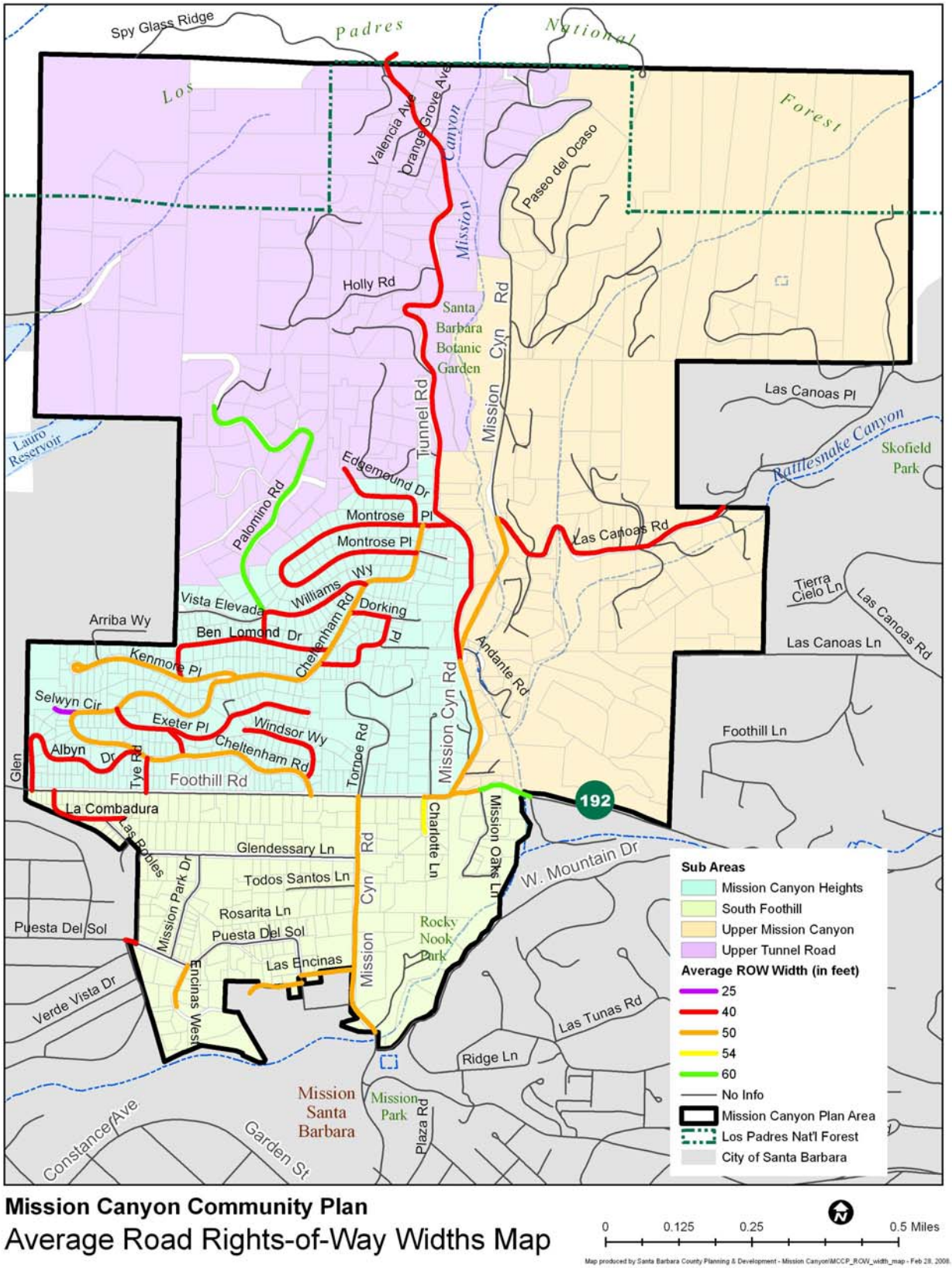

Figure 13 — Average Road Rights-of-Way Widths

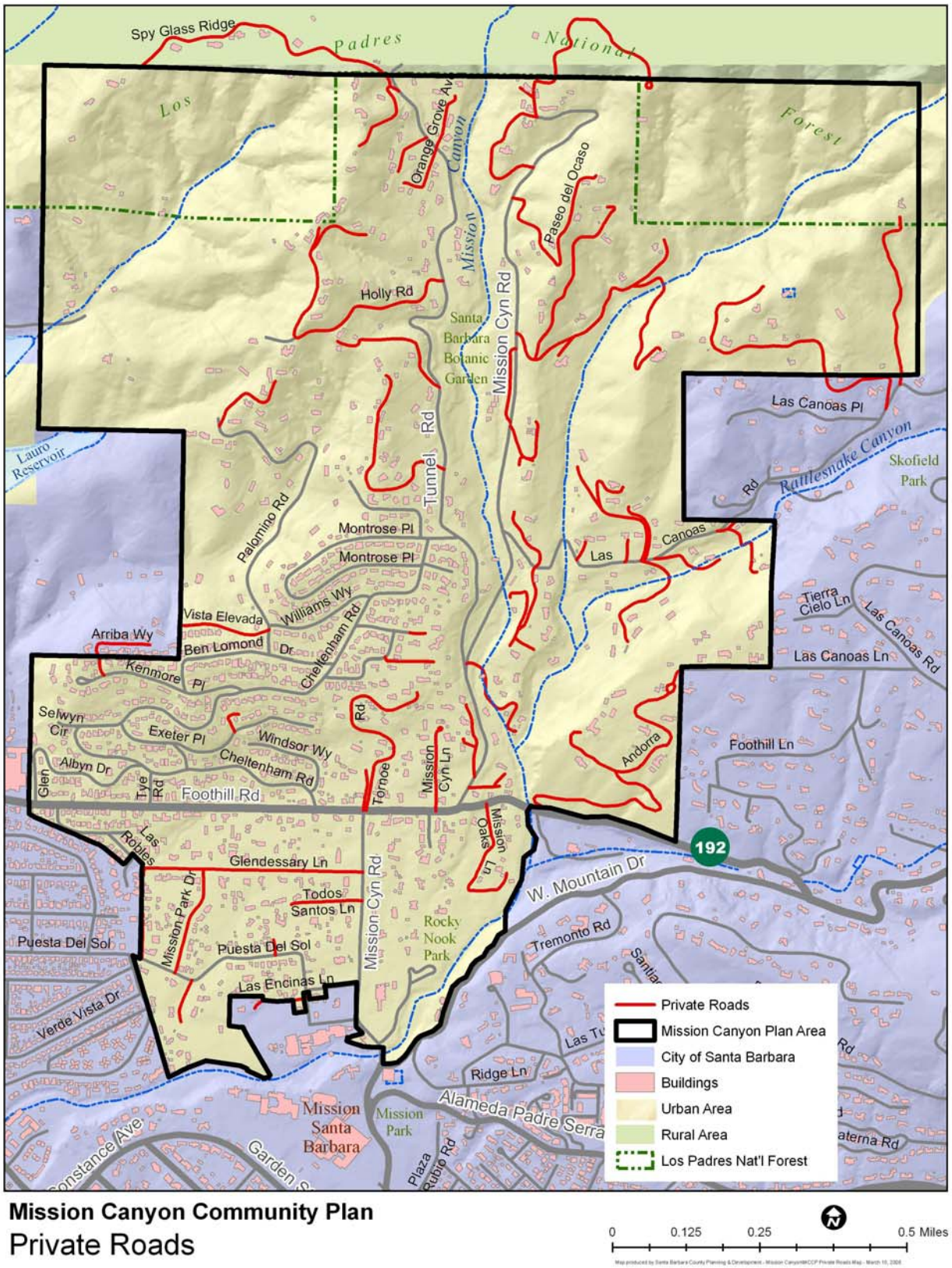

Figure 14 — Private Roads

2. CIRCULATION ELEMENT

This section of the Community Plan updates the Circulation Element Map (Figure 15), roadway classifications, and project consistency standards of the County's Circulation Element. In so doing, this Community Plan identifies a new system of roadway classifications and project consistency standards applicable within Mission Canyon, which supersede the prior County Circulation Element classifications and standards.

a. Definitions:

Acceptable Capacity: The maximum number of Average Daily Trips (ADTs) that are acceptable for the normal operation of a given roadway. As defined by this Community Plan, the Acceptable Capacity for a given roadway is based upon its roadway classification and the acceptable level of service for that roadway. The minimum acceptable level of service (LOS) for roadways in the Mission Canyon Community Plan Area is Level of Service B. Exception to this Level of Service is:

- Mission Canyon Road south of Foothill Road – LOS C is acceptable.

Estimated Future Level of Service: For a given intersection, the projected level of service (LOS) is based on existing traffic levels combined with traffic to be generated by approved but not yet occupied projects as referenced by the public draft environmental documents for the development project under review. The Estimated Future Level of Service must consider any funded but not yet constructed improvements that are planned for completion prior to the project's occupancy. This includes any mitigation from projects that have been approved by the Planning Commission or Board of Supervisors but have not yet been constructed.

Estimated Future Volume: For a given roadway segment, the most recent County-accepted projections based upon a count not more than two years old of Average Daily Trips (ADTs) plus any ADTs associated with approved projects that are not yet occupied as referenced in the public draft environmental document for the development project under review.

Design Capacity: The maximum number of ADTs that a given roadway can accommodate based upon roadway design as determined by the County Public Works Department. Design Capacity usually equates to LOS E/F.

b. Roadway Classification System

Secondary roadways are two lane roads designed to provide principal access to residential areas or to connect streets of higher classifications to permit adequate traffic circulation. Such roadways may be fronted by a mixture of uses and generally carry a lower percentage of through traffic than Primary roadways (Table 6). The main designation is further subdivided into three subclasses, dependent upon roadway size, function, and surrounding uses. The Mission Canyon roadway classification system (Table 7) is comprised of a select number of Secondary roadways.

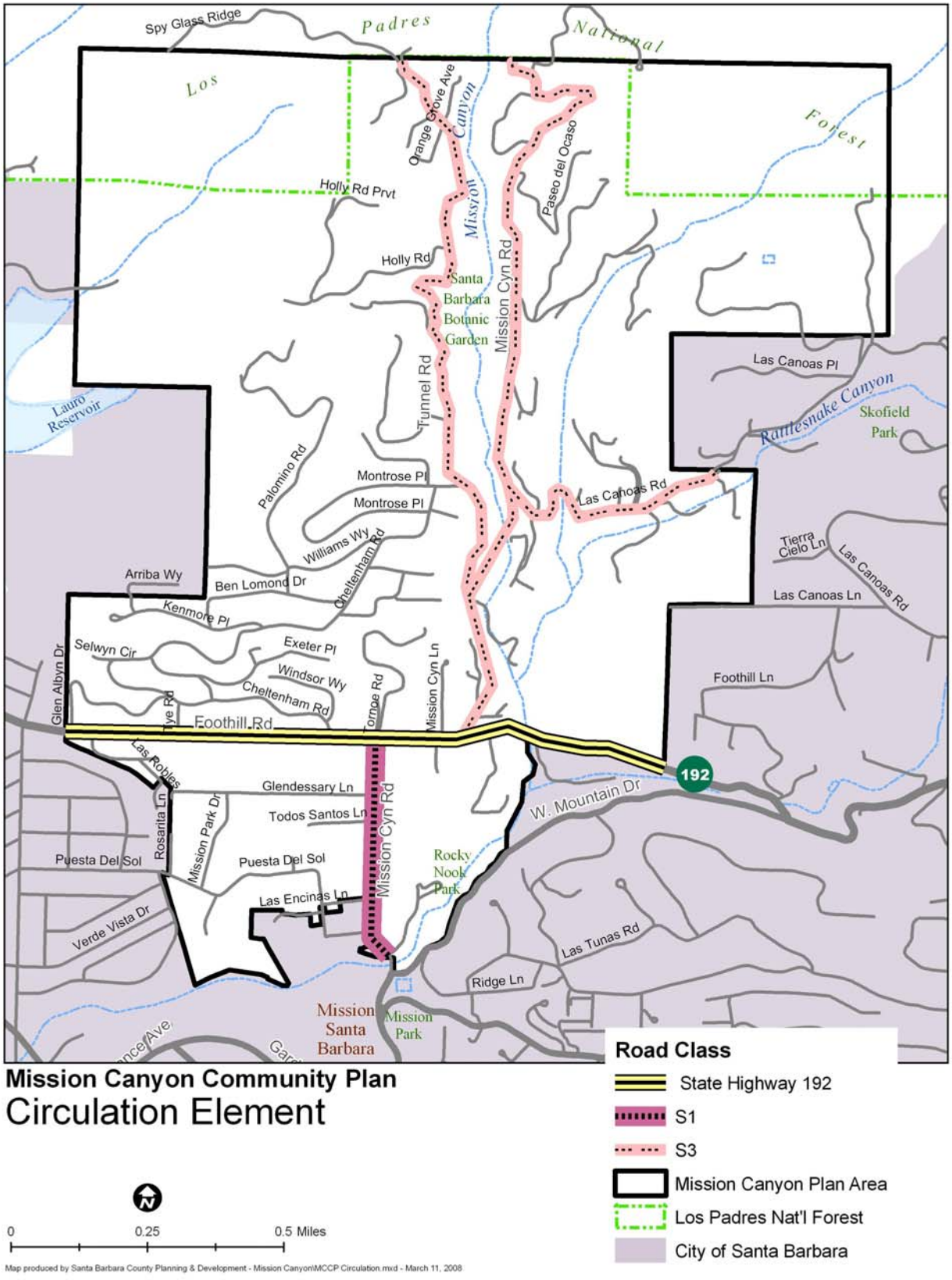

Figure 15 — Circulation Element Map

Table 6: Secondary Roadway Classifications

Classification	Purpose and Design Factors	Design Capacity	
		2 Lane	4 Lane
Secondary 1	Roadways designed primarily to serve non-residential development and large lot residential development with well spaced driveways. Roadways would be 2 lanes with infrequent driveways. Signals would generally occur at intersections with primary roads.	11,600	NA
Secondary 2	Roadways designed to serve residential and non-residential land uses. Roadways would be 2 lanes with close to moderately spaced driveways.	9,100	NA
Secondary 3	Roadways designed primarily to serve residential with small to medium lots. Roadways are 2 lanes with more frequent driveways.	7,900	NA

Table 7: Mission Canyon Roadway Classifications

Roadway	Segment	Classification	Design Capacity (2-Lane)	Acceptable Capacity (LOS)
Mission Canyon Road (south)	South of Foothill Road	S-1	11,600	9,280 (LOS C)
Mission Canyon Road (north)	North of Foothill Road	S-3	7,900	5,530 (LOS B)
Tunnel Road	Entire length	S-3	7,900	5,530 (LOS B)
Las Canoas	East of Mission Canyon Road	S-3	7,900	5,530 (LOS B)

c. Existing Levels of Service

Adequacy of intersection design and operation is a primary factor influencing roadway efficiency. Operating conditions are described by level-of-service (LOS), which is derived by comparing traffic volumes with roadway capacity. LOS A represents the best traffic operation, while LOS F represents the worst. LOS B is considered the minimal level desired within Mission Canyon due to the semi-rural character throughout the Community Plan Area.[17] The six LOS categories are described below in Table 8. Table 9 and Table 10 list the existing roadway volumes and intersection delays for selected roadways.

While Mission Canyon's roadways and intersections currently operate within acceptable levels of service, the Mission Canyon Road (south)/Foothill Road intersection experiences the greatest congestion and average vehicle delay in the p.m. peak hour of any intersection within the Plan area.[18] The combination of extensive vehicle queues during the evening rush-hour, limited roadway shoulder width and turn out areas, and close to moderately spaced driveways on Foothill Road have the potential to adversely effect emergency egress out of the canyon and emergency vehicle response

17 LOS C is acceptable Level of Service for Mission Canyon Road south of Foothill Road.

18 Foothill Road (State Route 192) is a Caltrans jurisdiction highway and the designated acceptable level of service is LOS D.

in the event of a wildfire. Caltrans is scheduled to begin the Mission Canyon CURE project along Foothill Road (between Alamar Avenue and Mission Canyon Road) in 2008\2009. This project will underground lateral drainage ditches along the road right-of-way which will provide additional flat shoulder areas for vehicles to merge out of the travel lane and avoid conflicts with responding emergency vehicles.

Table 8: Level of Service Definitions

LOS	Definition
A	Free unobstructed flow, no delays; signal phases able to handle approaching vehicles.
B	Stable flow, little delay, few phases unable to handle approaching vehicles.
C	Stable flow, low to moderate delays, full use of peak direction signal phases.
D	Approaching unstable flow, moderate to heavy delays, significant signal time deficiencies experienced for short durations during peak traffic period.
E	Unstable flows, significant delays, signal phase timing is generally insufficient, extended congestion during peak period.
F	Forced flow, low travel speeds and volumes well above capacity.

Table 9: Existing Roadway Volumes

Roadway	Classification	Acceptable Capacity	Existing[19] Volume	Existing LOS
Mission Canyon Road s/o Foothill Road	S-1	9,280	8,523	LOS C
Mission Canyon Road n/o Foothill Road	S-3	5,530	2,855	LOS A
Mission Canyon Road n/o Las Canoas Road	S-3	5,530	624	LOS A
Tunnel Road n/o Mission Canyon Road	S-3	5,530	2,033	LOS A
Las Canoas Road e/o Mission Canyon Road	S-3	5,530	850	LOS A
Foothill Road w/o Mission Canyon Road (south)	2-Lane Arterial	11,680	7,100[20]	LOS A
Foothill Road e/o Mission Canyon Road (south)	2-Lane Arterial	11,680	6,359[21]	LOS A
Foothill Road e/o Mission Canyon Road (north)	2-Lane Arterial	11,680	3,750[22]	LOS A

Table 10: Existing Intersection Level of Service

Intersection	Control	Avg. Delay (sec.) / LOS[23]	
		AM Peak	PM Peak
Mission Canyon Road (south)/Foothill Road	3-Way Stop	21.3/LOS C	25.6/LOS D
Mission Canyon Road (north)/Foothill Road	3-Way Stop	9.4/LOS A	10.6/LOS B
Mission Canyon Road/Tunnel Road	2-Way Stop	11.2/LOS B	12.2/LOS B
Mission Canyon Road/Las Canoas Road	2-Way Stop	8.9/LOS A	9.1/LOS A

19 Volume data for County roadways from County Public Works roadway counts, February 27, 2008.

20 Mission Canyon CURE Project Mitigated Negative Declaration (SCH #: 2004071078), Caltrans, September 2004.

21 Source: Caltrans, 2006

22 Source: Caltrans, 2006

23 Source: The Santa Barbara Botanic Garden Vital Mission Plan, Draft EIR, April 2007, page 4.11-13

d. Special Roadway Condition Factors

Special Roadway Condition Factors denote that special conditions exist on given roadways which merit a reduction in the Base Acceptable Capacity (70 percent of design capacity).[24] Special Roadway Condition Factors can be applied to classified and non-classified roadways within the Mission Canyon Community Plan Area for purposes of assessing project constraints and potential impacts.

- The **geometrics category** shall be applied to roadways based upon the presence of curves, slopes, narrow pavement, etc., which substantially limit sight distance, maneuverability, or emergency vehicle access.
- The **design category** shall be applied based on prevalence of driveways, intersections, or other access points which produce substantial turning movement conflicts, etc.
- The **special usage** category shall be applied to roadways which have substantial current or projected use by pedestrians, bicycles, equestrians, agricultural equipment, or other non-automobile uses.
- The **on-street parking** category shall be applied to roadways with a current or projected prevalence of on-street parking. Special Roadway Condition Factors shall be applied in the following manner:

Table 11: Special Roadway Condition Factors

No. of Applicable Factors on a Given Roadway	Acceptable Capacity[25] (expressed as a percentage of Design Capacity)
0	70%
1	63%
2	56%
3	49%
4	43%

e. Standards for Determination of Project Consistency

Purpose

This section defines intersection and roadway standards in terms of Level of Service; provides methodology for determining project consistency with these standards; and defines how roadway and intersection standards will be applied in making findings of project consistency with this Plan. The intent of this section is to ensure that roadways and intersections in the Plan Area continue to operate at acceptable levels.

Consistency Standards for Secondary Roadways (S-1 through S-3)

1) For Secondary roadway segments where the Estimated Future Volume does not exceed the Acceptable Capacity, a project is consistent with this section of the Plan. However, county decision-makers may impose additional circulation improvements based upon project impacts and specific road segment characteristics (i.e., sight distance, school proximity, parking driveways, roadway width, safety, vehicle speed, etc.).

24 Acceptable Capacity for Mission Canyon Road south of Foothill Road is 80 percent of design capacity (LOS C).

25 Acceptable Capacity for Mission Canyon Road south of Foothill Road is 80 percent of design capacity (LOS C).

2) For Secondary roadway segments where the Estimated Future Volume exceeds the Acceptable Capacity, a project is consistent with this section of the Plan if: 1) the project generates 70 ADT or less, or 2) the project provides additional circulation improvements to offset the effects of project-generated traffic.

Unsignalized Intersection Consistency Standards

1) Projects contributing peak hour trips to unsignalized intersections that operate better than or equal to Estimated Future Level of Service B shall be found consistent with this section of the Plan.

2) Projects contributing traffic to unsignalized intersections that do not trigger traffic signal warrant criteria shall be found consistent with this section of the Plan.

Special Standards for Projects Involving Comprehensive Plan Amendments and Major Conditional Use Permits

1) Comprehensive Plan Amendment and Major Conditional Use Permit applicants shall be required to demonstrate that the proposed change or land use would not potentially result in traffic levels higher than those anticipated for that parcel by the Plan and its associated environmental documents. If higher traffic levels could result from the amendment or Major CUP, then the following findings shall be made by the Planning Commission or Board of Supervisors for approval:

- The increase is not large enough to cause the affected roadways and/or intersections to exceed their designated acceptable capacity levels at buildout of the Plan; or

- Road improvements included as part of the project description are consistent with the Plan and are adequate to fully offset the identified potential increase in traffic.

Exemptions

Roadway and Intersection standards stated above shall not apply to:

1) Land use permits if the decision-maker has taken final action on a valid prior discretionary approval (e.g., FDP, CUP) and a finding of Comprehensive Plan consistency was made at the time of approval, and no substantial change has occurred in the project.

3. CIRCULATION AND PARKING GOALS, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL CIRC-MC -1: Achieve safe roadways and improve pedestrian and bicycle passage, while maintaining the community character and aesthetic qualities of Mission Canyon.

Policy CIRC-MC-1: Land uses and densities shall reflect the desire of the community to maintain local roads and intersections within acceptable capacities and levels of service.

DevStd CIRC-MC-1.1: The County shall balance the need for new road improvements with protection of the area's semi-rural character. All development shall be designed to respect the area's environment and minimize disruption of the semi-rural character.

Action CIRC-MC-1.2: The County shall coordinate with Caltrans to ensure improvements along State Route 192/Foothill Road are developed in a manner consistent with bicycle and pedestrian safety, and should be designed for improved bicycle access.

DevStd CIRC-MC-1.3: In order to provide for pedestrian safety, pathways should be encouraged within the County road right-of-ways. Priority shall be given to providing and protecting pedestrian pathways when the County grants encroachment permits along County roadways to private land owners.

Action CIRC-MC-1.4: The County shall actively pursue siting a pedestrian on-road trail adjacent to Mission Canyon Road from Mission Santa Barbara to the Santa Barbara Botanic Garden. Trail design and siting shall be consistent with the semi-rural neighborhood character along Mission Canyon Road.

Action CIRC-MC-1.5: The County shall work with the City of Santa Barbara to provide a network of pedestrian pathways for residents and visitors to safely access Mission Santa Barbara, Rocky Nook Park, Santa Barbara Museum of Natural History, and local neighborhoods within and adjacent to the Mission Canyon Scenic Corridor.

DevStd CIRC-MC-1.6: On all public roads, the Public Works Department shall require half width road frontage improvements to meet current standards on any project which requires Special Problems Committee review.

DevStd CIRC-MC-1.7: The cumulative impacts of new development on roadway capacity and Level of Service shall be considered during the permit review process. Projects which would cause traffic to exceed acceptable capacities and LOS shall be denied unless mitigation measures can reduce impacts to an acceptable level.

Policy CIRC-MC-2: **Traffic signals are not considered compatible with the semi-rural character of Mission Canyon, and should only be considered when no other form of intersection improvement is feasible, or when warranted to protect public safety. Signals shall not be installed until community workshops have been held so that community concerns can be discussed and addressed to the maximum extent feasible.**

Policy CIRC-MC-3: **Mature landscaping within the road right-of-way is aesthetically valuable to the community and shall be preserved and maintained to the extent that it does not compromise public safety, impede pedestrian pathways, or interfere with applicable County or Caltrans sight distance standards.**

Policy CIRC-MC-4: **Stone bridges and sandstone culverts are considered major architectural elements in the preservation of the semi-rural character of the community and shall be protected and maintained.**

Policy CIRC-MC-5: **Project consistency with the Mission Canyon Community Plan Circulation Section shall constitute a determination of project consistency with Land Use Development Policy 4 (Land Use Element) with regard to roadway and intersection capacity. Per Land use Development Policy 4, a project may be denied or reduced in density if adequate resources are unavailable. Project applicants shall assume full responsibility and cost for required improvements.**

Policy CIRC-MC-6: **The minimally acceptable Level of Service (LOS) on roadway segments and intersections in Mission Canyon Community Plan Area is LOS B. Exception to this policy is:**

- **Mission Canyon Road south of Foothill Road – LOS C is acceptable.**

GOAL CIRC-MC-2: **Provide an efficient and safe circulation system with adequate access for emergency vehicles and safe emergency egress for residents and visitors**.

Policy CIRC-MC-7: **The County shall actively abate illegal encroachment of fences, walls, structures, landscaping, and other impediments (other than historic rock walls) located within the road right-of-way.**

Policy CIRC-MC-8: **Any temporary construction in a roadway which involves the closure of one or both traffic lanes shall be carefully coordinated with County Fire Department to ensure emergency access to and egress from the Canyon are available at all times.**

GOAL CIRC-MC-3: Development shall provide adequate on site parking for occupants and guests, with mitigation of drainage impacts, to reduce on-street parking to the maximum extent feasible.

DevStd CIRC-MC-3.1: All access roads and driveways to new dwelling units shall be designed and built to allow emergency vehicle access. In addition, new development shall provide adequate off street parking for residents and guests, especially in area where "No Parking" restrictions exist on adjacent roads and/or where roads are narrow, winding, and/or steep.

Action CIRC-MC-3.2: Planning & Development Department shall work with Public Works, County Fire Department, and area residents to develop a residential parking strategy for areas of Mission Canyon where traffic flow is constrained due to on-street parking on narrow streets. An implementation strategy shall be developed to ensure safe ingress and egress within a very high fire hazard area.

Action CIRC-MC-3.3: The County shall work with the City of Santa Barbara to identify trailhead parking solutions along Tunnel Road. The study shall evaluate the feasibility of developing a low-intensity trailhead parking area on City of Santa Barbara owned land (APN 153-270-009) at the terminus of Tunnel Road which could also function as an emergency vehicle turn-around and staging area.

DevStd CIRC-MC-3.4: All construction related vehicle and equipment parking shall be located on-site, or at a designated off-site location approved by Planning & Development.

Action CIRC-MC-3.5: Santa Barbara Land Use and Development Code Section 35.36.050 shall be amended to increase the required parking spaces per dwelling unit in the R-1\E-1 zone districts from 2 to 3 spaces.

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D. PUBLIC SERVICES: WATER, RESOURCE RECOVERY AND GREEN BUILDING & DESIGN

1. WATER

a. Water Resources Setting

Under a 1912 water services agreement, the City of Santa Barbara is obligated to supply to the Mission Canyon Area an amount of water commensurate with their continuing demand for such water.[26]. Water is supplied from a variety of sources, including Cachuma Project and Gibraltar Reservoir. The cost of purveying this water to Mission Canyon residents is currently $3.44 per hundred cubic feet (HCF[27]), a figure which represents 130% of what City residents currently pay for the same volume.[28]

Current city water demand has leveled off at approximately 14,000 to 14,500 AFY, which is approximately 2,000 AFY below the late 1980's demand, despite new construction within the city and a service area population increase of about 8,200 people.[29] This reduced water demand trend can be attributed to increased public awareness for the need to conserve water, and willingness to install water saving plumbing fixtures, and landscaping and irrigation systems since the drought of the early 1990's; as well as the City's continuing comprehensive program to promote long-term water efficiency.

b. Water Resources Issues

The City of Santa Barbara recently prepared a General Plan Update: 2030 Conditions, Trends, and Issues Report (2005) that examined existing conditions associated with water supply, treatment, and distribution system, and specifically analyzed and determined that there were no existing anticipated deficiencies for the next 20-year planning period based on a growth rate of 0.7% per year.

Continued in-fill development under existing land use designations could result in the development of an additional 157 units throughout Mission Canyon (Table 3 and 4 – Buildout Analysis).

2. RESOURCE RECOVERY (Recycling)

a. Resource Recovery Setting

The Public Works Department Resource Recovery & Waste Management (RRWM) Division is responsible for planning and implementing waste collection and recycling programs throughout the County unincorporated areas. The Division contracts with private waste haulers to provide waste collection services.

26 Santa Barbara County Planning & Development, Mission Canyon Area Specific Plan, (1984), pg 18.

27 100 cubic feet (HCF) = 748 gallons.

28 City of Santa Barbara water service rates for single family residential customers is $2.65 for the first 4 HCF and $4.44 for the next 16 HCF. (Source: City of Santa Barbara Public Works Department).

29 City of Santa Barbara General Plan Update 2030: Conditions, Trends and Issues, pg. 122.

Solid waste, green waste, and recyclable materials in Mission Canyon are collected by MarBorg Industries. MarBorg Industries has contracted its services to the County since 1974 and their current contract is valid until 2011.[30] MarBorg Industries also participates in Mission Canyon Association's annual Brush Clearing Day by providing brush disposal services for residents.

Collected green waste and recyclables are transported to the County-owned and operated South Coast Recycling and Transfer Station in Goleta which serves as a recycling facility and a consolidation point for small loads of waste. The transfer facility is permitted to process up to 550 tons of material per day; however, currently handles less than 300 tons per day. Waste is delivered to the County-owned Tajiguas Landfill which serves the South Coast, Santa Ynez and New Cuyama Valleys, and processes approximately 700 tons of trash per day. Tajiguas Landfill has sufficient capacity to accept waste until 2020. Tajiguas is not open to the general public (only standing account holders); self-hauled waste can be disposed of at the South Coast Recycling and Transfer Station.

b. Resource Recovery Issues

One of the primary goals of the RRWM Division is to divert recyclable waste from County landfills. The California Integrated Waste Management Act of 1989 (AB 939) required cities and counties to develop a Source Reduction and Recycling Element (SRRE) to provide strategies for diverting at least 50% of all solid waste from landfills by the year 2000. In February 1992, the Santa Barbara County Board of Supervisors adopted the County's SRRE which guides solid waste management and recycling efforts. Approximately 64% of the solid waste stream is currently diverted from the County landfill.

Based on solid waste generation rates in the County's Environmental Thresholds and Guidelines Manual,[31] it is estimated that plan buildout could result in the generation of an additional 1,129 tons[32] of solid waste annually. This estimate does not account for the amount diverted from the waste stream by way of recycling, composting or other methods.

3. GREEN BUILDING & DESIGN

Green building practices place a high priority on health, environmental and resource conservation performance. Green building is a whole systems approach to the design and construction of buildings, site development and landscaping which emphasizes resource and energy efficiency, use of renewable energy resources and building materials, and healthy living environments. This approach benefits both builders and homeowners by reducing resource consumption, increasing livability, and saving money in the operation and maintenance of their homes and property.

Mission Canyon residents have expressed a desire that new development incorporate sound environmental principles, including mindfulness of solar access and protection of watersheds. The Mission Canyon Residential Design Guidelines incorporate Green Design Guidelines to provide homeowners, designers and builders with guidance on the ways that buildings, site development, and landscaping can provide better health, ecological and resource performance effectively and economically.

30 Provision to extend contract to 2019 if specific performance criteria are met.

31 0.95 tons per year per person.

32 163 units*2.7 persons/unit*0.95 tons per year per person = 1,129 tons per year.

Innovative Building Review Program

The County encourages residential projects to incorporate green building techniques. The County's Innovative Building Review Program (IBRP) offers a number of methods which can benefit the construction and operation of development, and increase a project's energy efficiency and marketability. The IBRP committee is made up of local professionals including contractors, architects, engineers, energy consultants, and government officials with a vast amount of knowledge and interest in innovative, energy-efficient developments.

The IBRP provides a number of incentives to participants that reach one of three target levels. One is an expedited review of the development's plan check through the Building & Safety Division. Another is a 50% reduction on the energy plan check fee. Other incentives are available depending on the target level the project development reaches. To reach a target, the project must exceed California Energy Efficiency Standards (Title 24) by 20—40%, depending on which target level and incentives are available for the project, and include additional energy-efficient features outside the purview of Title 24 (e.g., recycled building materials, drought-tolerant or native plants, alternative energy systems). The program provides an Energy-Efficient Menu list of energy efficient features to select from. Each feature is assigned a point(s). The point total and the percentage improvement upon Title 24 are used to determine the target level achieved.

4. PUBLIC SERVICES GOALS, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL PS-MC-1: **Incorporate environmental principles in the design and construction of new, remodeled, and rebuilt structures.**

Policy PS-MC-1: **New and rebuilt structures, and remodeled portions of existing structures shall exceed California Energy Efficiency Standards (Title 24) by 20% or greater.**

Action PS-MC-1.1: The County shall pursue the feasibility of establishing a Sustainable Energy Financing District to allow property owners to install solar systems and make other energy efficiency improvements to buildings and pay for the cost as a long-term assessment on their property tax bills. The County shall consult with other local jurisdictions and encourage multi-jurisdiction participation in order to maximize financing efficiencies.

Action PS-MC-1.2: The County shall encourage developers and homeowners to incorporate green building techniques into new, remodeled, and rebuilt structures, to the greatest extent feasible. This can be achieved, in part, through continued promotion of the incentives and design expertise available to property owners through the Innovative Building Review Program.

DevStd PS-MC-1.3: Mission Canyon Residential Design Guidelines - Green Design Guidelines should be incorporated as part of all new residential development, to the maximum extent feasible.

Policy PS-MC-2: **Development in Mission Canyon shall incorporate water efficient design, technology, and landscaping.**

Action PS-MC-2.1: The County Water Agency shall work with the City of Santa Barbara to promote educational programs that encourage efficient water use in Mission Canyon.

DevStd PS-MC-2.2: Landscape plans shall include appropriate water-conserving features such as those listed in the Water Resources section of the County's Standard Conditions of Approval and Standard Mitigation Measures.

GOAL PS-MC-2: **Provide community-wide resource recovery (recycling) opportunities to promote a sustainable community.**

Policy PS-MC-3: **Resource conservation and recovery shall be implemented in Mission Canyon to reduce solid waste generation and to divert the waste stream from area landfills to the maximum extent feasible. Diversion shall be maximized through source reduction, recycling and composting.**

DevStd PS-MC-3.1: Recycling bins shall be provided by the applicant or contractor at all construction sites to facilitate the recovery of all currently accepted recyclable construction materials. Adequate and accessible enclosures and/or areas shall be provided for the temporary storage of recyclable materials in appropriate containers.

Action PS-MC-3.2: The County shall work with the local waste hauler to continue education programs which provide residents information on conservation, recycling, and composting techniques.

E. WASTEWATER

1. PLAN AREA SETTING

a. Background

Prior to providing public sewer service in Mission Canyon, the area had a long history of problems related to the use of septic systems for onsite wastewater treatment and disposal. These problems result from a combination of unfavorable soil and subsoil characteristics, steep slopes, relatively dense residential development in some areas, and a lack of routine septic system maintenance by individual homeowners.

In August 1982, the County undertook a series of studies to examine various alternatives for resolving wastewater disposal problems. From these studies, the County developed a Wastewater Facilities Plan in 1983 to provide sewer service to the more densely developed southern portion of Mission Canyon (Service Area), and to institute a formal septic system maintenance program for the less densely developed northern portion (Maintenance Area).

This Plan assumed additional importance and urgency once the California Central Coast Regional Water Quality Control Board (RWQCB), in February 1983, formally established a septic waste discharge prohibition area within lower Mission Canyon and the vicinity of nearby surface drainages. The RWQCB established a timetable for compliance, with the complete termination of septic waste discharges mandated by July 1, 1986.

Following certification of the Environmental Impact Report (EIR) for the Wastewater Facilities Plan in 1983, the City of Santa Barbara was concerned that if the City agreed to provide contract sewer services, it would have no control over future building density, which had previously been limited by septic system problems. Concerns over the sewer project's growth-inducing effects resulted in the preparation of a Supplemental EIR[33] which identified a joint agency Specific Plan as feasible mitigation for environmental effects related to potential growth inducement.

A Joint Powers Agreement[34] between the County and City of Santa Barbara was adopted with language making the City's provision of sewer service contingent upon the preparation and adoption of a joint City-County Specific Plan. The Mission Canyon Specific Plan was formally adopted in October 1984. [35]

Wastewater Collection & Infrastructure

The Mission Canyon Sewage Assessment District was established in 1985 to help fund the approximately $11 million cost of the sewer line extension project completed in November 1986. As of 2008, 768 parcels are on sewer comprising 813 sewer connection.[36] Public sewer lines currently serve the lower Canyon south of Foothill Road; the Tornoe Road and Mission Canyon

33 Interface Planning and Counseling Corp., Final Environmental Impact Report Supplement on the Mission Canyon Area Wastewater Facilities Plan, 83-SD-4, certified January 1984.

34 Joint Powers Agreement for Wastewater Collection, Treatment and Disposal in the Mission Canyon Area. Adopted by the County Board of Supervisors on August 13, 1984; adopted by the Santa Barbara City Council on September 11, 1984.

35 County of Santa Barbara Ordinance 3468, October 22, 1984; City of Santa Barbara Resolution 84-159, October 23, 1984.

36 Approximately 20 property owners in the Service Area requested and received exemptions from immediate connections to the sewer. As of 2007, only four of those owners remain unconnected. Upon change of ownership, parcels with exemptions are required to connect to the public sewer and pay a connection fee to the County. Source: Marty Wilder, Manager, County Public Works Department, October 10, 2007.

Lane area extending northeast to Tunnel Road; and the area immediately north of Foothill Road commonly known as Mission Canyon Heights (Figure 16).

The City of Santa Barbara El Estero Wastewater Treatment Plant provides effluent treatment for uses within the Santa Barbara city limits, as well as the Mission Canyon Service Area pursuant to the 1984 Joint Powers Agreement. The design capacity of the El Estero Wastewater Treatment Plant is 11 million gallons per day (MGD), and the current average wastewater flow is approximately 8.5 MGD, or 77 percent of treatment capacity. According to the City of Santa Barbara, wastewater flows were significantly reduced during the 1990 drought and have not returned to pre-drought levels. El Estero Wastewater Treatment Plant operates well under its design capacity.[37]

The City of Santa Barbara charges the County for treating the effluent and the County in turn assesses property owners connected to the sewer system for the owner's share of these costs.[38] The amount of assessment varies depending upon the number of residential units on each parcel connected to the sewer.[39] Mission Canyon property owners are responsible for all costs associated with the installation, connection, and maintenance of sewer laterals, while the County of Santa Barbara is responsible for pro-active maintenance and capital repair of the sewer main lines.

Septic System Use

An on-site individual wastewater disposal system, also referred to as a septic system, is used for the disposal of wastewater from structures that do not have access to a public wastewater treatment facility. There are 239 parcels on septic comprising 240 septic systems in the Mission Canyon Community Plan Area.[40] Nearly all of the lots on septic systems in the upper Canyon are greater than one-half acre in size, and nearly 60% are larger than one acre.[41] Steep slopes, small parcel sizes, unfavorable soil and geologic conditions, and proper system maintenance are all factors which can influence how well individual septic systems continue to function.

b. Regulatory Setting

Regional Water Quality Control Board, Region 3, Central Coast

Santa Barbara County falls within the jurisdiction of the Central Coast Regional Water Quality Control Board (Regional Board). The Regional Board is a state regulatory agency whose purpose is to protect the quality of surface and groundwater within the region for beneficial uses. The Regional Board has adopted policies and requirements pertaining to onsite systems that are contained within the Water Quality Control Plan for the Central Coast Basin (Basin Plan). The onsite systems element of the Basin Plan sets forth various objectives, guidelines, general principles, and recommendations for the use of onsite systems that cover various topics related to siting, design and construction, operation and maintenance, and corrective/enforcement actions.

37 City of Santa Barbara General Plan Update 2030: Conditions, Trends and Issues, September 2005.

38 Approximately $275,000 in 2004. Ibid. pg 81.

39 A parcel with one unit is assessed $593; with two units $1,137; with three units $1,705; and with four units $2,273. 2006-2007 assessment data, County Public Works.

40 Personal Comm. Marty Wilder, Manager, County of Santa Barbara Public Works Department, March 2008.

41 Questa Engineering Corp., Septic System Sanitary Survey for Santa Barbara County, Table 8-2, (2003).

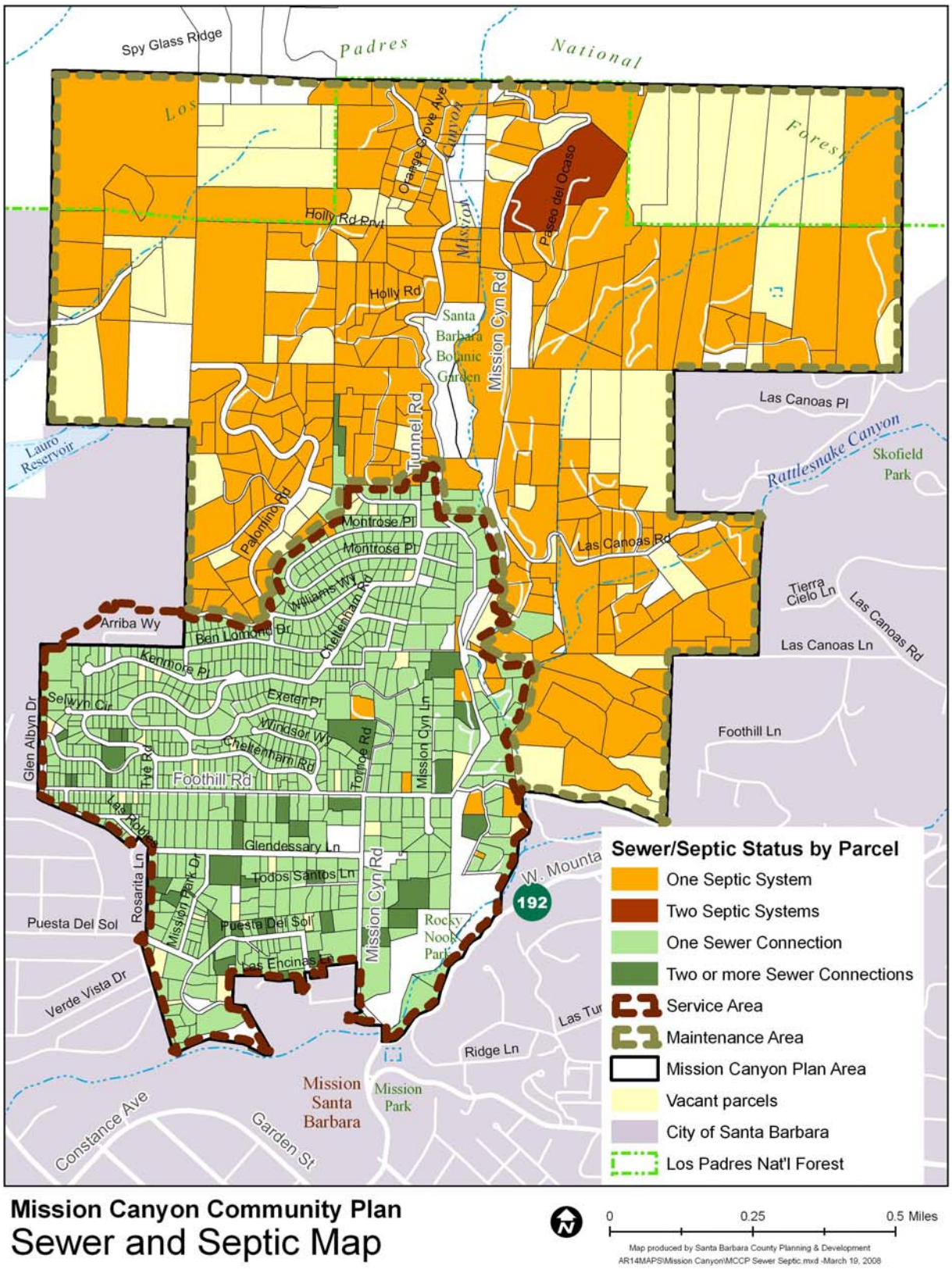

Figure 16 — Sewer and Septic Map

Santa Barbara County Regulations

Through a memorandum of understanding with the Regional Board, on-site sewage disposal systems in Santa Barbara County are regulated by the County Public Health Department, Environmental Health Services Division (EHS). Regulations for onsite systems are contained in the County Wastewater Ordinance which sets forth specific requirements related to: permitting and inspection of onsite systems; septic tank design and construction; drywell and disposal field requirements; and servicing, inspection, reporting, and upgrade requirements. Standards pertaining to system sizing and construction are contained in the California Uniform Plumbing Code. The Basin Plan requires that newly created parcels served by onsite septic systems be one-acre or greater. EHS can approve septic systems on existing legal lots less than 1-acre if site conditions are favorable and all code requirements can be met. In addition, the County's Land Use and Development Code[42] restricts residential second units within designated Special Problem Areas because of potential impacts on the public health, safety, and welfare. Additional requirements for onsite systems may be adopted as part of Community Plans or conditions applied to development proposals lying within a designated Special Problem Area of the county.

Septic System Performance

Santa Barbara County septic system requirements provide for the use of conventional on-site systems including septic tanks for retention and initial treatment and leach fields or drywells for disposal. A leach field consists of a horizontal system of perforated pipes which discharge the effluent to the land. The leach field must be relatively shallow (less than five fee total depth) to allow for evapotranspiration and must also provide maximum separation from the groundwater table. Drywells involve vertical disposal of septic effluent and are only allowed in areas where leach fields are determined to be infeasible. Drywells are more likely to be used higher up in the canyon where soil profiles are too shallow to effectively site leach fields.

Standard criteria for siting and design serve to prevent adverse impacts on groundwater and surface water from onsite sewage disposal systems. The most important factor is the provision of sufficient depth of unsaturated soil below the leachfield (or drywell) where filtering and breakdown of wastewater constituents can take place. Without adequate separation distance from the water table, groundwater becomes vulnerable to contamination with pathogenic bacteria and viruses, as well as other wastewater constituents. Highly permeable soils (e.g., sands and gravels) also provide minimal treatment of the percolating wastewater and normally require greater separation distances to afford proper groundwater percolation. Additionally, groundwater can be degraded from the accumulation of nitrate, chloride and other salts that are not filtered or otherwise sufficiently removed by percolation through the soil, particularly in an area with a high concentration or density of septic systems (i.e., small lot sizes).

Most leach fields eventually fail when the ability of the soil to percolate is impaired over time from build up of "biomat" or bacterial growth in the absorptive surfaces in the soil. When effluent from a septic tank can no longer percolate downward, the effluent will rise to the surface of the ground, a phenomenon called "daylighting." Poorly maintained septic systems are more likely to fail than systems which are inspected regularly and pumped out as required. It is generally recommended that systems be inspected annually and pumped out every three to five years. The cost of maintenance is very little in comparison to repair or replacement and can extend the life of the system significantly. System failure is not only expensive for the homeowner, but can lead to public health risks including pollution of groundwater and creeks.

42 Santa Barbara County Planning & Development Land Use & Development Code, Chapter 35, Section 35.42.230.D, pg. 4-50.

Voluntary Inspection Program

Environmental Health Services relies on a voluntary septic system inspection program to monitor the function of existing septic systems in the Canyon. Since 1999, 180 of the 244 septic systems have been serviced by a registered septic tank pumper.[43] The pumper is required by law to submit the inspection and service report to EHS for review. Property owners are then notified by EHS to complete any repairs identified in the service report.

Special Problem Area

Santa Barbara County Ordinance No. 3665 provides for the delineation of "Special Problem Areas" for certain areas of the county where physical constraints affect development and building activity. Development proposals within a Special Problem Area (SPA) require additional discretionary review by a committee of representatives of Public Works, Roads Division, County Flood Control, Planning and Development Department, Environmental Health Services, and County Fire Department. For the protection of property from damage, and public health and safety, the committee may impose any and all reasonable and necessary conditions to prevent or mitigate present or potential problems that might result from the development proposal. The Board of Supervisors designated Mission Canyon as a Special Problem Area in 1978 due in part to problems related to the use of septic systems.

c. Wastewater Planning Issues

Septic system performance in Mission Canyon has been, and will continue to be a problem. Property owners need to sustain proactive maintenance to extend the operational life of existing systems. Mission Canyon received a Medium-High Problem rating in the 2003 Septic System Sanitary Survey for Santa Barbara County due to the combination of very difficult soil-geologic conditions in most areas, the large number of older systems, the moderate number of failures and problems reported, and proximity to Mission Creek. Septic systems in many areas of the canyon continue to function well, while Las Canoas Road and Palomino Road experience a higher problem rating.[44]

The Mission Canyon Community Plan seeks to address long-term wastewater treatment needs by imposing additional septic system standards which focus on dual disposal areas and advance treatment systems for drywells. The plan also recommends development of a Wastewater Management Plan to tailor wastewater treatment systems for specific areas of the Canyon, and mandatory inspection and maintenance of septic systems.

Wastewater Management Plan

Development and implementation of a Wastewater Management Plan has been promoted by the RWQCB for areas where soil-geologic conditions are reasonably suitable for continued use of septic systems for significant portions of the area, but where other factors (e.g., total number of systems, localized problems, age of systems, water quality threats) dictate that special management efforts be made to improve and maintain long-term effectiveness of onsite wastewater systems and avoid serious environmental problems. In essence, a Wastewater Management Plan is a customized plan that includes a mix of different types of septic system designs, special maintenance activities, and sewerage of specific areas

43 Rick Merrifield, Director, County Environmental Health Services, presentation to MCPAC, October 10, 2007.

44 Ibid.

2. WASTEWATER GOALS, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL WW-MC-1: **Protect the quality of surface and ground water from degradation and provide adequate wastewater treatment and disposal throughout Mission Canyon.**

Policy WW-MC-1: **Development and infrastructure shall achieve a high level of wastewater treatment in order to best serve the public health and welfare.**

DevStd WW-MC-1.1: Development requiring private sewage disposal shall use gravity flow of wastewater to the septic tank and disposal field to minimize mechanical failure, which may cause surfacing of effluent. For lots of record where gravity flow of effluent is unavailable, pumping may be allowed. For new subdivisions where gravity flow to the septic tank and disposal field is unavailable, pumping may be allowed only if lift stations and grinder pumps are maintained and operated by a public agency.

DevStd WW-MC-1.2: To reduce the possibility of prolonged effluent daylighting, two disposal fields shall be built to serve each septic system, as required by Environmental Health Services, so the additional field can immediately be put into use when one field begins to fail. An additional third expansion area shall be set aside where no development can occur, except for driveways on constrained sites as provided in DevStd WW-MC-1.5.1. If either of the developed disposal fields fails, the third expansion area shall be developed with a disposal field approved by Environmental Health Services.

DevStd WW-MC-1.3: An additional disposal field shall be installed for remodels of plumbed structures where the existing septic system must be enlarged, and instances where septic system repairs are required due to failure.

DevStd WW-MC-1.4: Development providing wastewater treatment via dry wells shall be required to install dual (200%) capacity fields for all new installations, and advanced treatment systems in problematic or sensitive locations.

DevStd WW-MC-1.5: Where feasible, measures to decrease the amount of nitrates filtering through soil to groundwater shall be required, including:

1. Shallow-rooted non-invasive plants (maximum root depth of four feet) shall be planted above all leach fields to encourage evapotranspiration of effluent and uptake of nitrates. Impervious surfaces, such as paved driveways, shall not be constructed above leach fields. Turf block or other suitable pervious surface shall be used if site constraints require a driveway to be located above a leach field.

2. Advanced treatment for the removal of nitrates shall be required for new septic systems using drywells as the disposal field. Existing septic systems that use drywells that have failed, or that need to be modified, shall also install advanced treatment.

DevStd WW-MC-1.6: Septic systems shall be a minimum of 100 feet from the geologic top of slope of tributary or creek banks (reference point as defined by Planning and Development and Environmental Health Services). Modifications to existing septic systems shall meet this buffer to the maximum extent feasible.

DevStd WW-MC-1.7: Development shall not be approved where individual or cumulative impacts of septic systems for new development would cause pollution of creeks unless this would preclude development of a parcel to such an extent that an unconstitutional deprivation of property occurs.

Action WW-MC-1.8: The County shall require that each septic system be inspected at least every four years by a registered septic tank pumper. Property owners shall be notified by EHS to complete any repairs or other maintenance identified in the service report and shall be given a specified length of time to complete any needed maintenance and submit a clearance report.

Action WW-MC-1.9: The County shall encourage the use of any alternative sewage treatment systems approved by the Regional Water Quality Control Board which would be suitable for use in Mission Canyon.

Action WW-MC-1.10: The County shall work cooperatively with the City of Santa Barbara and Regional Water Quality Control Board to pursue feasibility, fiscal, and environmental studies to develop an Onsite Wastewater Management Plan for Mission Canyon. The study shall provide detailed attention to: (1) defining areas where septic system upgrades may continue to be feasible, and (2) defining areas where extending public sewage service and infrastructure may be appropriate and feasible. Community input shall be sought regarding the content of the studies and potential alternative solutions.

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Section IV
Resources and Constraints

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A. BIOLOGICAL RESOURCES

1. EXISTING SETTING

a. Plan Area Setting

Mission Canyon extends from the lower ranges of the Santa Ynez Mountains in the Los Padres National Forest to the border with the City of Santa Barbara at the middle range of Mission Creek. The Canyon contains both created landscapes, such as those in the developed residential neighborhoods and in much of the Santa Barbara Botanic Garden, and natural habitats along the creeks and in the underdeveloped and vacant parcels in Upper Mission Canyon.

Although residential development and small orchards have fragmented the natural habitats, some expanses of native vegetation, rare and sensitive plant and animal species, and habitat linkages still remain. Upper Mission Canyon contains the largest areas of natural habitat, including chaparral, riparian forest, and oak woodland. This area also includes the "landscaped" coast live oak woodland of the Santa Barbara Botanic Garden. South of Foothill contains significant habitat resources in Rocky Nook Park with its relatively dense oak woodland canopy and the Mission Creek stream corridor. Outside of the stream corridor, South of Foothill has a considerable area of "developed" riparian and woodland forest canopy, signifying where homes are interspersed with oaks and sycamores. Mission Canyon Heights is largely developed and does not contain stream corridors or significant areas of undisturbed natural habitat.

Throughout Mission Canyon, habitat resources include steep, chaparral-covered foothills of the Santa Ynez Mountains and woodland and riparian forest along Mission and Rattlesnake Creeks. Mammals include a variety of rodents, bats, coyote, fox, raccoon, bobcat, and deer. Typical birds include hawks, falcons, owls, quail, hummingbirds, woodpeckers, crows, jays, and sparrows that nest and forage in the riparian and woodland communities. Various species of reptiles and amphibians are expected, including, but not limited to, western fence lizard, gopher snake, common kingsnake, rattlesnake, frogs, and turtles.

Description of Natural Habitats

Biological resources in Mission Canyon have been identified from a range of information sources. Biological studies of specific development project sites and studies from the Santa Barbara Botanic Garden and City of Santa Barbara provide a backdrop for the general biological resources of the area. In addition to reviewing published biological studies, Planning & Development's (P&D) biologist conducted limited field investigations within the study area in February and April 2008. In addition, aerial photographs of Mission Canyon taken in July 2006 were evaluated by the P&D biologist and mapping staff to determine the general location of major vegetation types. Mapping based on aerials was supplemented by U.S. Geological Survey 1:24,000-scale topographic maps and County of Santa Barbara Flood Control District topographic maps in some areas (e.g., east of Mission Canyon Road near Rocky Nook Park) in order to distinguish between riparian and upland habitat types based on major topographic breaks in slope. The biological resource information described above was used to develop general habitat classifications present in Mission Canyon and prepare the Plan's Biological Resources (Figure 17) and Environmentally Sensitive Habitat (Figure 18) Maps. Appendix C is a record of the documented occurrences of special status plant species as noted on Figures 17 and 18.

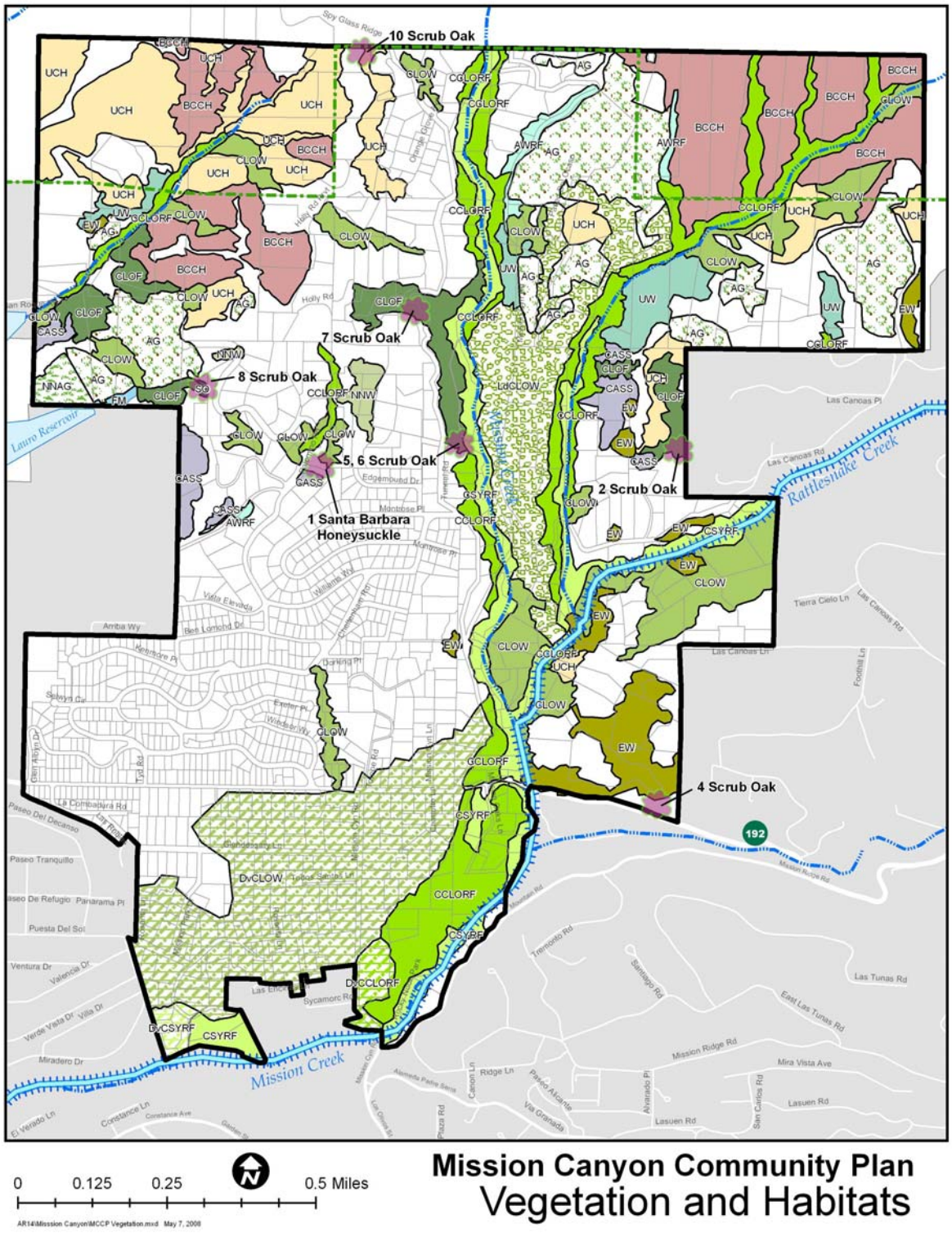


Figure 17 — Vegetation and Habitats


Mission Canyon Community Plan
Vegetation and Habitats
Riparian Woodland / Forest
AWRF
Arroyo Willow Riparian Forest
CSYRF
California Sycamore Riparian Forest
CCLORF
Central/Southern Coast Live Oak Riparian Forest
Other Woodland / Forest
CLOW
Coast Live Oak Woodland
CLOF
Coast Live Oak Forest
SO
Scrub Oak
EW
Eucalyptus Woodland
NNW
Non-Native Woodland
UW
Unknown Woodland
Chaparral / Scrub
BCCH
Bigpod Ceanothus Chaparral
UCH
Unknown Chaparral
CASS
California Sagebrush Scrub
Developed Habitats
DvCSYRF
Developed with California Sycamore Riparian Forest Canopy
DvCCLORF
Developed with Central/Southern Coast Live Oak Riparian Forest Canopy
DvCLOW
Developed with Coast Live Oak Woodland Canopy
LnCLOW
Landscaped with Coast Live Oak Woodland Canopy
AG
Agriculture
Other Habitats
FM
Freshwater Marsh
NNAG
Non-Native Annual Grassland
Steelhead Critical Habitat Stream
Sensitive Species (indefinite extent)
Community Plan Area
City of Santa Barbara
Los Padres National Forest Boundary

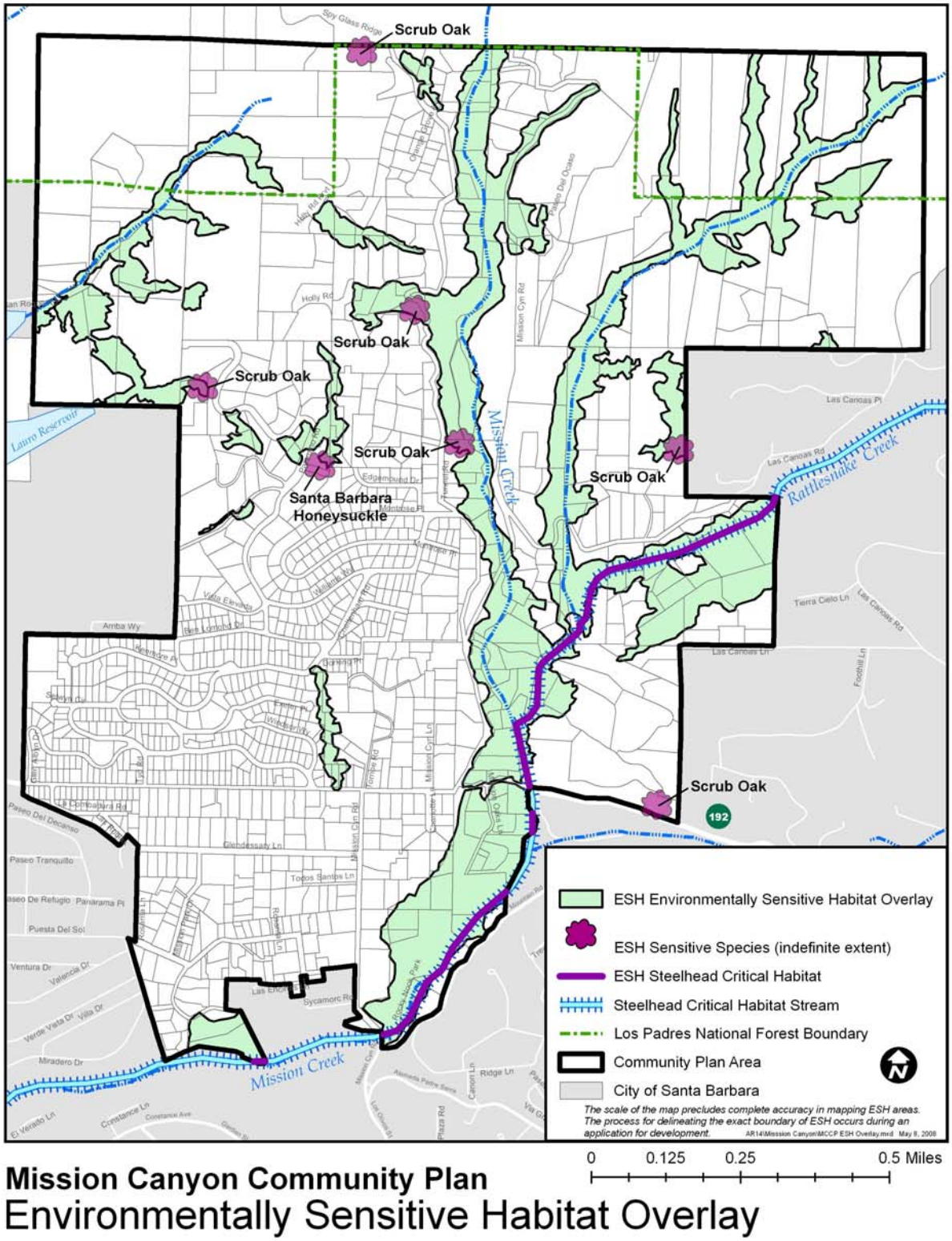


Figure 18 — Environmentally Sensitive Habitats

Riparian Forest and Coast Live Oak Woodland

The riparian forest and woodland areas of the Canyon cover approximately 216 acres, about 19% of the Plan Area—not including landscaped and developed forest and woodland areas—and includes coast live oak (*Quercus agrifolia*), California sycamore (*Platanus racemosa*), California bay (*Umbellularia californica*), white alder (*Alnus rhombifolia*) and other species. Oak and riparian forest native understory species include poison oak, wild blackberry, and wild rose. Weedy species typically present include garden nasturtium, German ivy, periwinkle, and castor bean. The drainages and riparian areas provide safe corridors for wildlife movement with large and small mammals frequently crossing between drainages.

Chaparral

Chaparral covers approximately 158 acres, about 14% of the Plan Area. This habitat is characterized by woody shrubs forming dense thickets covering slopes with little soil profile. It is highly adapted to fire and effectively prevents erosion on hillsides. Characteristic and dominant species include chamise, manzanita, coastal sage, ceanothus, coast live oak and toyon. Nuttall's scrub oak (*Quercus dumosa*), a special status species, occurs in this plant community. Nuttall's scrub oak ranges from northern coastal Baja California to Santa Barbara, reaching its northern limit in Mission Canyon. The California Native Plant Society reports that Nuttall's scrub oak has a limited number of occurrences; it is endangered throughout its range and is rare outside California.

Chaparral is an important source of refuge and forage for mammals, which in turn attract scavengers and predators, including bobcat, gray fox and coyote. Typical bird species include wrentit, California quail, Bewick's wren, and California thrasher. Reptiles such as western fence lizard, southern alligator lizard, striped racer, rattlesnake and kingsnake are also widely represented in chaparral due to its dense cover and abundant insect and rodent populations. Western pond turtle (California Species of Special Concern) and California newt could occur in the chaparral within 1,000 feet or more from riparian habitat.

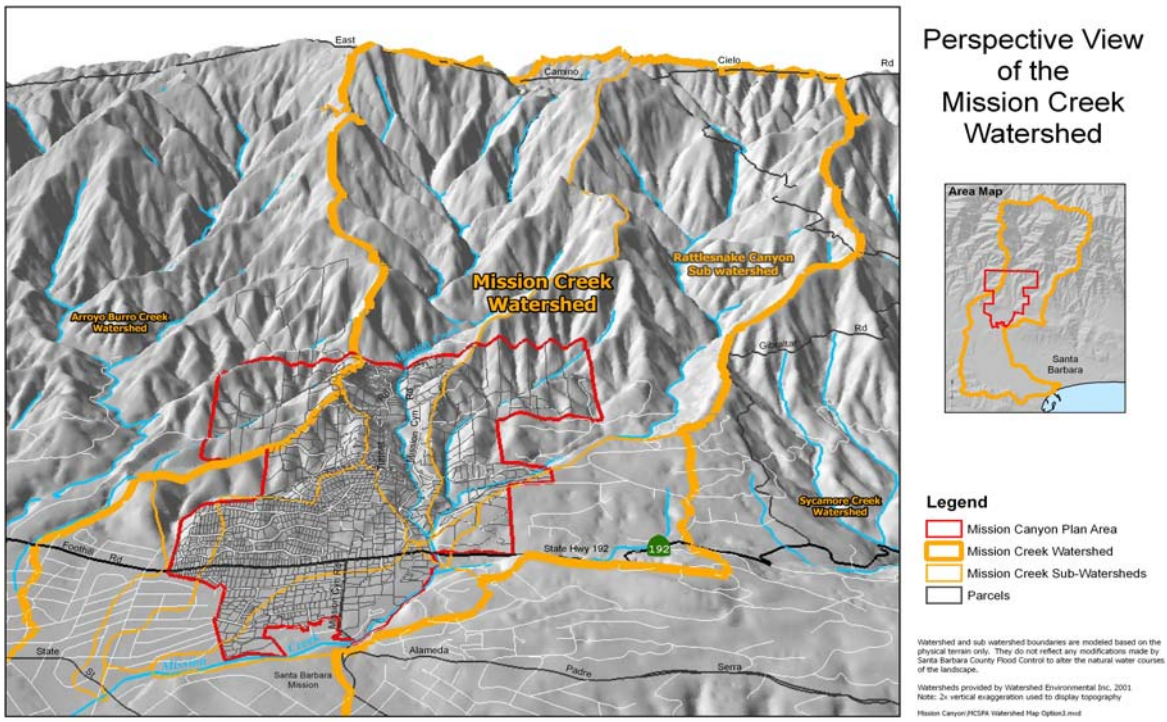
California Sagebrush Scrub

California sagebrush scrub covers approximately 12 acres, about 1% of the Plan Area. This community, abundant in the County, is usually found on dry and rocky slopes below the chaparral. California sagebrush (*Artemisia californica*), several sage species, California buckwheat (*Eriogonum fasciculatum foliolosum*), coyote brush (*Baccharis pilularis*), and California encelia (*Encelia californica*) dominate this plant community. Santa Barbara honeysuckle (*Lonicera subspicata* var. *subspicata*), a special status species, is found in this plant community. This habitat provides protective cover for many small mammals that are important prey for carnivores and birds of prey.

Creeks and Watersheds

Most of the Mission Canyon Plan Area falls within the Mission Creek watershed with a small portion of the upper northwest of the Canyon in the Arroyo Burro Creek watershed (Figure 19). Mission Creek has two main tributaries: the main stem that begins 3,975 feet above the Botanic Garden and Las Canoas and Rattlesnake Creeks, which converge near Foothill Road.

Figure 19 — Mission Creek Watershed



Mission Creek Watershed

Mission Creek extends approximately 7.5 miles from the Santa Ynez Mountains to the ocean and drains a 7,589 acre watershed. About 47% of the watershed is in the Los Padres National Forest and 15% is under County jurisdiction. Mission Creek is characterized by large cobble, boulder, and exposed bedrock substrates. Canopy cover is extensive with 85% native vegetation. Relatively undisturbed stretches of contiguous oak woodland, scrub, and grassland habitats support a high diversity of plants and wildlife, including special-status species. Rattlesnake Canyon provides boulder pool habitat for a wide variety of birds and mammals. The relatively dense oak woodland along Mission Creek through Rocky Nook Park supports a diversity of reptile, amphibian, and bird species.

Mission Creek is the only watershed draining through the City of Santa Barbara that has extensive historical records of steelhead presence. High quality habitat conditions exist but steelhead have not been observed in recent history upstream of a 6-foot-tall boulder cascade just above the confluence with Rattlesnake Creek. Rattlesnake Creek contains high-quality habitat conditions for steelhead from Mission Creek upstream to the Las Canoas Road bridge.[45]

Arroyo Burro Watershed

The Arroyo Burro watershed encompasses about 10% of the northwest portion of the Plan Area. The entire Arroyo Burro watershed is approximately 5,630 acres with about 10% under County jurisdiction. A small portion of San Roque Creek, which is a tributary to Arroyo Burro Creek and

45 City of Santa Barbara, Mission Creek and Arroyo Burro Watersheds Existing Conditions Study, (August 2005 Draft). Pg. 221-222.

constitutes about 48% of the overall watershed, also flows in the Plan Area. Vegetative cover is high in the upper portions of this watershed, and native tree cover comprises about 65% of the total in upper San Roque Creek. The watershed does not currently support a salmonid population, but habitat conditions in upper San Roque Creek could support a self-sustainable population of rainbow trout and anadromous steelhead if migratory access were provided at downstream barriers.[46]

b. Regulatory Setting

Several Federal, State and local laws and regulations, including the Endangered Species Act, California Endangered Species Act, Clean Water Act, California Fish and Game Code, Migratory Bird Treaty and the County's Environmental Thresholds and Guidelines Manual protect important biological communities and sensitive species in Santa Barbara County. "Sensitive species" is a broad term that may include federal and State-listed threatened, endangered or candidate species, as well as "species of special concern" and species that are locally rare, uncommon or endemic to particular sites. Federal and State law protects resources from specific activities such as dredge and fill, prohibit "take" of endangered species, and restrict changes to creek beds, stream banks or flows.

The Land Use, Conservation and Environmental Resource Management Elements of the Comprehensive Plan include biological resource protection policies and guidelines for new development. In addition, the County Flood Control Ordinance contains regulations regarding development in floodways and floodplains, which includes specific setback requirements for development (50 feet from top of bank of streams and creeks). Local policies presented here restate the importance of those protections and further protect resources through buffer and restoration policies.

Sensitive Species

Several special-status species have been observed at the Santa Barbara Botanic Garden and would be expected to occur in the Plan Area. These include: monarch butterfly, Cooper's, red-tailed and red-shouldered hawks, American kestrel, Nuttall's woodpecker, oak titmouse and California thrasher.[47] Appendix D lists Special Status Animals and potential occurrence in the project area. In May 2007, the Santa Barbara Botanic Garden held a "BioBlitz," which is a quick, intensive ecological survey to catalog as much biological diversity as possible in a defined area and in a concentrated period of time. The BioBlitz surveyed as many species as possible in and around a section of Mission Creek running through the garden grounds. This survey found the following special-status species: California newt, Costa's hummingbird, rufous hummingbird, Cooper's hawk, red-tailed hawk, red-shouldered hawk, great blue heron, oak titmouse, yellow warbler, California thrasher, Nuttall's woodpecker, great horned owl, and Western screech-owl.

Sensitive aquatic species that could occur in the Plan Area include the federally threatened California red-legged frog, which lives in aquatic habitats along streams and rivers. The Southwestern pond turtle is a California Species of Special Concern that occurs throughout Santa Barbara County along rivers and streams with permanent ponds. Suitable habitat is present in and along well-wooded sections of Mission and Rattlesnake Creeks. The Plan Area, as part of the entire South Coast area of Santa Barbara County, is designated critical habitat for the Southern California steelhead trout, which has the potential to occur in any of the streams and creeks. Steelhead have

46 City of Santa Barbara, Mission Creek and Arroyo Burro Watersheds Existing Conditions Study, (August 2005 Draft), pg. 192 – 194.

47 Envicom Corporation, Santa Barbara Botanic Garden Draft Environmental Impact Report, (June 2007), pg. 4.3-8-11.

long been observed in Rattlesnake Creek, a designated critical habitat for steelhead, as well as in the main stem of Mission Creek downstream of Rattlesnake. In the event that a public or private road or trail were proposed in or over a stream corridor in Mission Canyon, the National Marine Fisheries Service "Guidelines for Salmonid Passage at Stream Crossings" (Appendix G) shall be used to aid the upstream and downstream passage of migrating salmonids.

Special Status Plants and Communities

Several sensitive plant species, including Santa Barbara honeysuckle, Nuttall's scrub oak, California walnut (*Juglans californica*), Fish's milkwort (*Polygala cornuta* var. *fishiae*) and Hoffmann's sanicle (*Sanicula hoffmannii*) occur either naturally or in the created landscapes of the Santa Barbara Botanic Garden and could potentially occur in other areas of the Canyon. Appendix E lists Special Status Plants and potential occurrence in the project area.

2. PLANNING ISSUES

Much of Mission Canyon is an urban area where existing residential development is within and adjacent to oak forest, riparian forest, chaparral and other natural habitats, as well as densely landscaped ornamental vegetation. However, the relatively intact riparian corridors of sycamores, oaks, and other native species protect steam banks from erosion, provide beneficial shading for aquatic species, and offer cover for wildlife passage. The chaparral communities in the upper Canyon provide refuge and forage for many animal species as well as a rich diversity of native plants. Where chaparral borders on riparian woodland, the "edge" environment between the two vegetation habitats is highly beneficial to birds and other animals.

Due to steep topography and a high fuel load from native and ornamental vegetation, Mission Canyon is a state designated High and Very High Fire Hazard Severity Zone. Within this context, Canyon residents must conduct a careful balance between fuel management practices to reduce the fire hazard while maintaining the physical function of the natural habitats, particularly adjacent to streams and creeks. Biological Resources policies and development standards for Environmentally Sensitive Habitat (ESH) were developed with a principle focus on how to avoid disturbing the sensitive habitat and buffer areas in new development (DevStd BIO-MC-1.6 – 1.12). Secondly, Policy BIO-MC-2 and development standards BIO-MC-2.1 – 2.2 were developed to address current and future fuel management procedures in ESH and ESH buffer areas. Because state mandated defensible space and fuel management techniques are likely to change over time, the area-wide approach in this Community Plan is to adhere to fuel management practices specified in the California Fire Code, County of Santa Barbara Fire Code, and Mission Canyon Community Wildfire Protection Plan, which will allow flexibility if the standards change and are crafted to achieve the balance between protecting the resource and maintaining defensible space. As more residents comply with the minimum 100 feet of defensible space clearance requirements, the end result throughout the Canyon will be a more park-like appearance with thinning of dense vegetation, well spaced trees and shrubs, and trees limbed and dead materials removed.

Definitions

In order to provide clear guidance, the meanings of key terms in the Biological Resources Section shall be defined as follows:

Riparian Vegetation. Vegetation normally found along the banks and beds of streams, creeks, and rivers.

Stream Buffer. A designated width of land abutting a stream that protects biological productivity, water quality, and the hydrological characteristics of the stream.

Stream Channel. The depression created by erosion that carries the stream's flow.

Stream Corridor. A stream channel and its minimum prescribed buffer strip.

Intermittent Stream. A stream that only flows for part of the year and is marked on topographic maps with a line of blue dashes and dots.

Ephemeral Stream. A stream that flows only during and immediately after precipitation.

Perennial stream: A stream that has continuous flow in parts of its bed all year round during years of normal rainfall.

3. BIOLOGICAL RESOURCES GOAL, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL BIO-MC: **The native and created biological diversity of the Canyon is an important asset that shall be protected, preserved, and enhanced.**

Policy BIO-MC-1: **Environmentally sensitive biological resources and habitat areas shall be protected and, where appropriate, enhanced.**

Action BIO-MC-1.1: The following general criteria are used to determine which resources and habitats in the Mission Canyon Plan Area are identified as environmentally sensitive:

- Unique, rare or fragile communities which should be preserved to ensure their survival in the future;
- Habitats of rare and endangered species as protected by State and/or Federal law;
- Outstanding representative natural communities that have values ranging from particularly rich flora and fauna to an unusual diversity of species;
- Specialized wildlife habitats which are vital to species survival;
- Areas structurally important in protecting natural landforms that physically support species (e.g., riparian vegetation protecting stream banks from erosion, shading effects of tree canopies);
- Critical connection between separate habitat areas and/or migratory species routes; and
- Areas with outstanding educational values that should be protected for scientific research and educational uses now and in the future, the continued existence of which is demonstrated to be unlikely unless designated and protected.

Action BIO-MC-1.2: The following biological resources and habitats, as identified and generally described by the Plan shall be presumed to be "environmentally sensitive," provided that the biological resource(s) or habitat(s) actually present on a project site satisfy one or more of the criteria listed in Action BIO-MC-1.1. These resources and habitats shall be identified on a Mission Canyon Community Plan Environmentally Sensitive Habitat (ESH) Overlay Map to the extent that their general or specific locations are known:

- Habitats containing Nuttall's scrub oak or other special status animal (e.g., steelhead critical habitat stream) or plant species or natural communities;
- Central and Southern Coast Live Oak Riparian Forest and Woodland;
- Coast Live Oak Woodland and Forest;
- California Sycamore Riparian Forest;
- Central Coast Arroyo Willow Riparian Forest;
- Wetland Habitats
- Native grasslands or other habitats with understory dominated by native grass species.

The scale of the overlay map precludes complete accuracy in the mapping of habitat areas. In some cases, the precise location of habitat areas is not known and is therefore not mapped. In addition, the migration of species or discovery of new habitats may result in the designation of new areas, or site-specific reviews may indicate different habitat designations. As new information becomes available, Planning & Development will periodically update the boundaries of the designations.

Action BIO-MC-1.3: The Land Use & Development Code shall be amended to include an Environmentally Sensitive Habitat overlay district for the Mission Canyon area (ESH-MC). Location of biological resources/habitat areas shall be depicted on the ESH-MC overlay map.

DevStd BIO-MC-1.4: The process for delineating the exact boundary of the ESH occurs during an application for development. New areas of ESH that meet the criteria listed in Action BIO-MC-1.1 and which are identified through the biological review process but are not currently mapped shall be considered ESH. Boundaries of mapped and unmapped ESH shall be confirmed on a site-specific basis by a County approved qualified biologist based on a site visit during the permit review process, and shall be precisely shown on all development plans.

DevStd BIO- MC-1.5 Development shall be required to include the following buffer areas from the boundaries of Environmentally Sensitive Habitat (ESH), unless it would preclude development of a parcel to such extent that an unconstitutional deprivation of property occurs:

- Central and Southern Coast Live Oak Riparian Forest and Woodland and California Sycamore Riparian Forest — 50 feet, as measured from the

geologic top of creek bank. When this habitat extends beyond the geologic top of creek bank, the buffer shall extend an additional 25 feet from the outside edge of the Central and Southern Coast Live Oak Riparian Forest and California Sycamore Riparian Forest canopy.

- Coast Live Oak Woodland and Forest — 25 feet from edge of canopy.
- Habitats containing Nuttall's scrub oak or other special status animal or plant species or natural communities — 25 feet minimum, full extent to be determined on a case-by-case basis.
- Steelhead critical habitat stream — 50 feet, as measured from the geologic top of creek bank.
- Central Coast Arroyo Willow Riparian Forest —50 feet, as measured from edge of riparian canopy.
- Wetland Habitats —50 feet, as measured from edge of wetland habitat.
- Buffer areas from other types of ESH shall be determined on a case-by-case basis.

These buffers areas may be adjusted upward or downward on a case-by-case basis given site specific conditions. Adjustment of the buffer shall be based on site-specific conditions such as slopes, biological resources, and erosion potential, as evaluated and determined by Planning & Development and other County agencies, such as Environmental Health Services and the Flood Control District. Buffer areas may be adjusted to avoid precluding development of a parcel to such extent that an unconstitutional deprivation of property occurs.

DevStd BIO-MC-1.6: Where development cannot be sited to avoid ESH, development in ESH and ESH buffer areas shall be designed and carried out in a manner that protects the sensitive habitat areas to the maximum extent feasible without precluding development of a parcel to such extent that an unconstitutional deprivation of property occurs.

DevStd BIO-MC-1.7: Development proposed within areas zoned with the ESH-MC Overlay shall be subject to the applicable regulations and permit requirements contained in the County Zoning Ordinance ESH-MC Overlay regulations.

DevStd BIO-MC-1.8: Development shall be sited and designed at an appropriate scale (size of main structure footprint, size and number of accessory structures/uses, and total areas of paving, motor courts and landscaping) to avoid disruption and fragmentation of biological resources in ESH areas, avoid or minimize removal of significant native vegetation and trees, preserve wildlife corridors, and minimize fugitive lighting into ESH areas to the maximum extent feasible without precluding development of a parcel to such extent that an unconstitutional deprivation of property occurs. Where appropriate, development envelopes and/or other mapping tools shall be used to protect the resources.

DevStd BIO-MC-1.9: For existing structures in any zone district located within designated ESH or ESH buffer areas, structural additions shall be designed to minimize ground disturbance to protect the ESH resource to the maximum extent feasible. Site design and appropriate scale of the addition shall conform to the following guidelines:

1. Second-story additions should be encouraged as a design alternative to avoid ground disturbance, subject to approval by the South Board of Architectural Review and general compliance with the Mission Canyon Residential Design Guidelines.

2. Where an existing structure is located only partially inside an ESH or ESH buffer area, dwelling unit additions should be located on those portions of the structure located outside or away from the ESH or ESH buffer area.

3. Where the structural addition cannot avoid significant ESH, a biological assessment may be required to determine the location of the addition that will result in the least disruption to the ESH.

4. Where the structural addition cannot avoid the ESH or ESH buffer areas, restoration or enhancement of the ESH resource may be required to offset the increased area of disturbance. Restoration or enhancement shall be contained in a Restoration Plan prepared by a county-approved biologist and approved by Planning and Development.

DevStd BIO-MC-1.10: New development on parcels entirely covered with ESH shall be subject to the following development standards. Development of a parcel shall not be precluded to an extent that an unconstitutional deprivation of property occurs:

1. The area of permitted ground disturbance for development, inclusive of defensible space area required for vegetation clearance, shall be proportional to the size of the parcel.

2. The main structure and accessory structures and uses, including roadways, landscaping, and agricultural uses, shall be clustered in one contiguous area to avoid fragmenting the habitat.

3. Development shall be located adjacent to existing access roads and infrastructure to avoid fragmenting the habitat, subject to the requirements of “1” and “2” listed above.

4. If impacts to ESH are greater than 0.5 acres, restoration shall be required at a 2:1 ratio. For parcels less than 0.5 acres, enhancement of adjacent ESH shall be required at a minimum 2:1 ratio.

DevStd BIO-MC-1.11: All construction activity, including but not limited to staging areas, storage of equipment and building materials, and employee vehicles, shall avoid disturbance to the ESH and ESH buffer areas.

DevStd BIO-MC-1.12: Public trails shall be sited and designed to avoid or minimize impacts to environmentally sensitive habitat, areas of steep slopes, and/or highly erosive soils. Proposed trail routes should be surveyed and re-routed where necessary to avoid sensitive species, subject to final approval by Planning and Development and the Parks Department.

Policy BIO-MC-2: Vegetation clearance for fuel management shall adhere to standards specified in the California Fire Code, County of Santa Barbara Fire Code, and Mission Canyon Community Wildfire Protection Plan.

DevStd BIO-MC-2.1: Vegetation clearance for fuel management within ESH shall maintain the habitat's structural integrity and ecological functions that physically support species (i.e., stream bank stabilization, erosion control and water quality, shading effects of tree canopies).

DevStd BIO-MC-2.2: Except for vegetation management plans approved by Santa Barbara County Fire Department, a Land Use Permit shall be required for the following activities:

a. The removal of native vegetation, for purposes other than vegetation clearance for fuel management consistent with DevStd BIO-MC-2.1, along 50 liner feet or more of a creek bank or removal that, when added to the previous removal of native vegetation within the affected habitat on the site, would total 50 or more linear feet of native vegetation along a creek bank.

Policy BIO-MC-3: Landscaping for development shall use appropriate plant species to ensure compatibility with and preservation of sensitive resources. Property owners are encouraged to remove existing flammable or invasive exotic species and replace them with non-invasive, fire-resistant varieties.

DevStd BIO-MC-3.1: Development requiring a landscape plan should use only non-invasive, fire resistant species (Appendix F). Undesirable Plant Species listed in Appendix F shall not be included in any landscape plan for new development.

Policy BIO-MC-4: Native trees shall be preserved where appropriate to the maximum extent feasible. A "native protected tree" is at least six inches in diameter (largest diameter for non-round trunks) as measured 4.5 feet above level ground (or as measured on the uphill side where sloped). Native trees found in Mission Canyon area include, but are not limited to: coastal live oak (*Quercus agrifolia*), Western sycamore (*Platanus racemosa*), California bay (*Umbellularia californica*), Bigleaf maple

(*Acer macrophyllum*), White alder (*Alnus rhombifolia*) and California black walnut (*Juglans californica*).

Policy BIO-MC-5: **Stream channels shall be maintained in an undisturbed state to the maximum extent feasible in order to protect banks from erosion, enhance wildlife passageways, and provide natural greenbelts. "Hardbank" channelization (e.g., use of concrete, riprap, gabion baskets) of stream channels shall be prohibited, except where necessary to protect existing structures. Where hardbank channelization is required, the material and design used shall be the least environmentally damaging alternative and site restoration on or adjacent to the stream channel shall be required, subject to a Restoration Plan.**

Policy BIO-MC-6: **Native riparian vegetation shall be protected as part of a stream or creek development buffer, defined as a minimum fifty [50] feet of the geologic top of the bank of any watercourse. The minimum development buffer may be adjusted upward or downward on a case-by-case basis, subject to approval by a biologist approved by Planning and Development, but shall not preclude development of a parcel to such extent that an unconstitutional deprivation of property occurs. Public or privately initiated restoration of degraded riparian areas to their former state shall be encouraged.**

DevStd BIO-MC-6.1: The native riparian buffer area shall be indicated on all site and grading plans. All ground disturbance and vegetation removal shall be minimized in the buffer area to the maximum extent feasible, except for appropriate vegetation fuel management for existing development and public trails that would not adversely affect existing habitat.

DevStd BIO-MC-6.2: When activities permitted in stream corridors would require removal of native riparian plants and non-native invasive species, revegetation/restoration with local native plants, obtained from seed and rootstock within as close proximity to the site as feasible shall be required.

DevStd BIO-MC-6.3: No structures shall be located within a stream corridor except: public trails that would not adversely affect existing habitat, dams necessary for flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, and other development where the primary function is for the improvement of fish and wildlife habitat. All development shall incorporate the best mitigation measures feasible to minimize the negative impact to the greatest extent.

Policy BIO-MC-7: **Southern California steelhead trout is a federally listed endangered species which, if identified in the Plan Area, shall be protected.**

DevStd BIO-MC-7.1: Development activity that requires ground disturbance on parcels containing ephemeral (dry except during and immediately after rainfall) or intermittent (seasonal) streams and creeks, and associated riparian vegetation shall be subject to all applicable permit requirements of the California Department of Fish and Game and the U.S. Army Corps of Engineers.

DevStd BIO-MC-7.2: Development activity in stream corridors shall be subject to the "Guidelines for Salmonid Passage at Stream Crossing" prepared by the National Marine Fisheries Service (See Appendix G).

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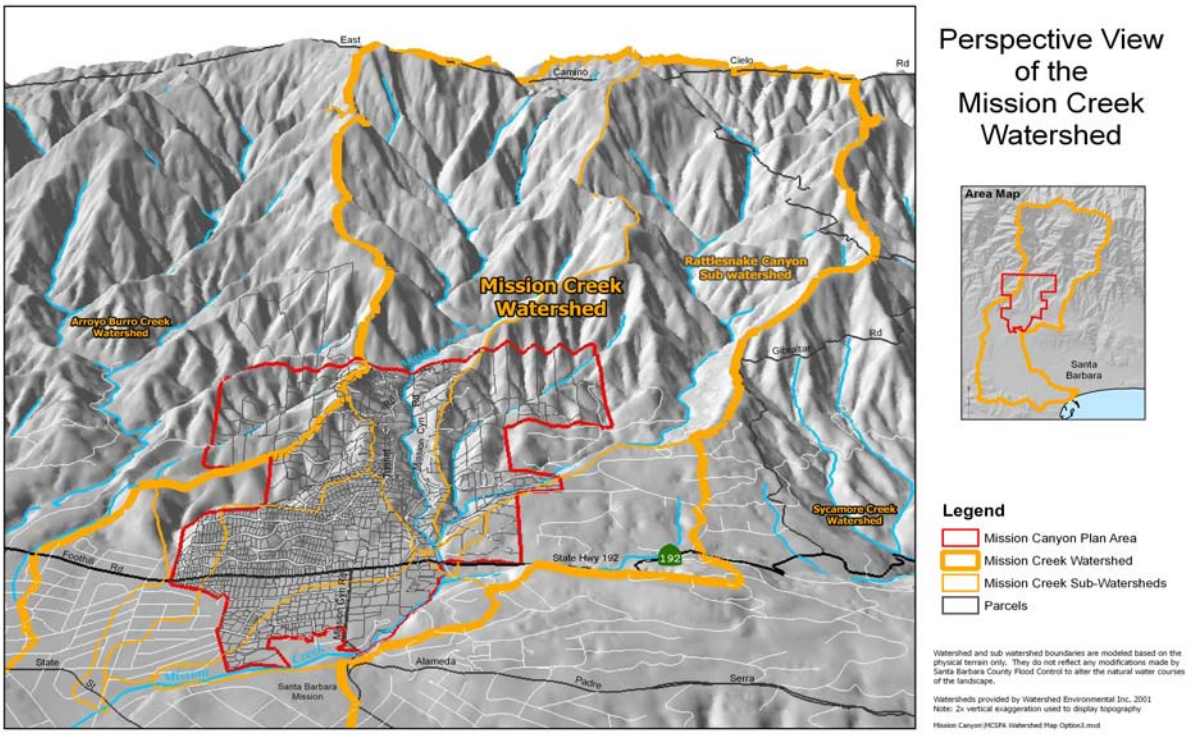
B. FLOODING AND DRAINAGE

1. SETTING

a. Local Setting

The Mission Canyon Plan Area is predominantly located within Mission Creek watershed. Mission Creek originates at the crest of the Santa Ynez Mountains and drains a 7,589 acre watershed capable of producing between 5,800 and 7,500 cubic feet per second (cfs) during a 100-year flow event (Figure 20). Mission Creek flows south between Tunnel Road and upper Mission Canyon Road, then southwest after crossing under Foothill Road and through Rocky Nook Park before entering the City of Santa Barbara. The Rattlesnake Canyon sub-watershed feeds into Mission Creek just north of Foothill Road and receives drainage from Rattlesnake Creek and the smaller Las Canoas drainage. Lauro Canyon is located within the Arroyo Burro Creek Watershed and occupies a relatively small area in the westerly portion of the Plan Area south of Spy Glass Ridge.

Figure 20 — Mission Creek Watershed



Mission Creek Debris Basin

The Mission Creek Debris Basin is located on Mission Creek approximately 2,000 feet upstream from the Botanic Garden. The basin includes a concrete dam that was built in 1964 by the U.S. Army Corps of Engineers after the Coyote Fire burned a large percentage of the watershed. The basin is designed to trap 15,000 cubic yards of flood debris from accelerated erosion after a fire and is maintained by Santa Barbara Flood Control District. Routine maintenance removes obstructive vegetation within a 15-30 foot wide pilot channel upstream of the basin outlet structure. Long term maintenance involves complete debris removal after the basin fills approximately 25 percent or roughly every 5-10 years, or after there is a significant fire in the watershed.

b. Local Flooding and Drainage

Two major indicators of potential flooding are the presence of a floodplain as defined by the Federal Emergency Management Agency (FEMA), and a Flood Hazard Area as defined in the Environmental Resources Management Element (ERME) of the Santa Barbara County Comprehensive Plan. FEMA defines a floodplain as the area of land adjacent to the water course that may be submerged by flood water during a 100-year storm. Flood Hazard Areas are coincident with the FEMA 100-year flood plain and indicate areas where flooding could adversely affect urban development.

Rattlesnake Creek and the lower portion of Mission Creek are the only water courses within the Plan Area that have an associated 100-year floodplain and Flood Hazard Area Overlay (Figure 21). These creeks generally experience periodic floods only during heavy storms, especially those that follow in close succession once the ground has been saturated.

Local drainage problems exist in some isolated areas of the Canyon; notably within the Tye Road and Cheltenham Road neighborhoods north of Foothill Road. The very small residential lots throughout Mission Canyon Heights were developed in the 1950's and 1960's on very steep slopes and without the benefit of a master drainage plan for the entire sub-watershed. As in many desirable neighborhoods throughout California, the intensity of development on individual lots has increased in concert with the rise in property values. Unfortunately, this can also lead to cumulative surface runoff exceeding the capacity of local and informal drainage channels.

c. Regulatory Setting

The Flood Control District operates under the regulatory authority of County Ordinance #3095 and Ordinance #3898. Ordinance #3095 requires mitigation for any development within 50 feet of the top of bank of any watercourse. Ordinance #3898 requires the finished floor elevation of all habitable structures to be a minimum of two feet above the 100-year flood elevation. A floodway is the area of a channel or river which must be kept in an unobstructed condition in order to convey a 100-year flow without increasing flood elevations more than one foot. The floodway and floodplain are both defined on FEMA Flood Insurance Rate Maps (FIRM).

Santa Barbara County Flood Control and Water Conservation District Capital Improvement Plan (CIP) is a five-year plan which addresses long-range flood control planning. There are currently no projects planned within the next five years in the Plan Area. However, the CIP is updated annually with any projects that could arise due to heavy rains or large fires.

Flood Control District maintenance activities are implemented according to the Santa Barbara County Flood Control and Water Conservation District Annual Maintenance Plan (Annual Maintenance Plan). District maintenance activities are typically designed to remove obstructive vegetation and/or sediment deposits that could either cause flooding, significant erosion, or plugging of downstream culverts and bridges. Funding for maintenance comes in part from flood control fees collected and used within Benefit Assessment Zones. Mission Canyon is within the South Coast Benefit Assessment Zone. Fees collected within Mission Canyon are reflected on individual property tax bills and can only be used for projects within that zone.

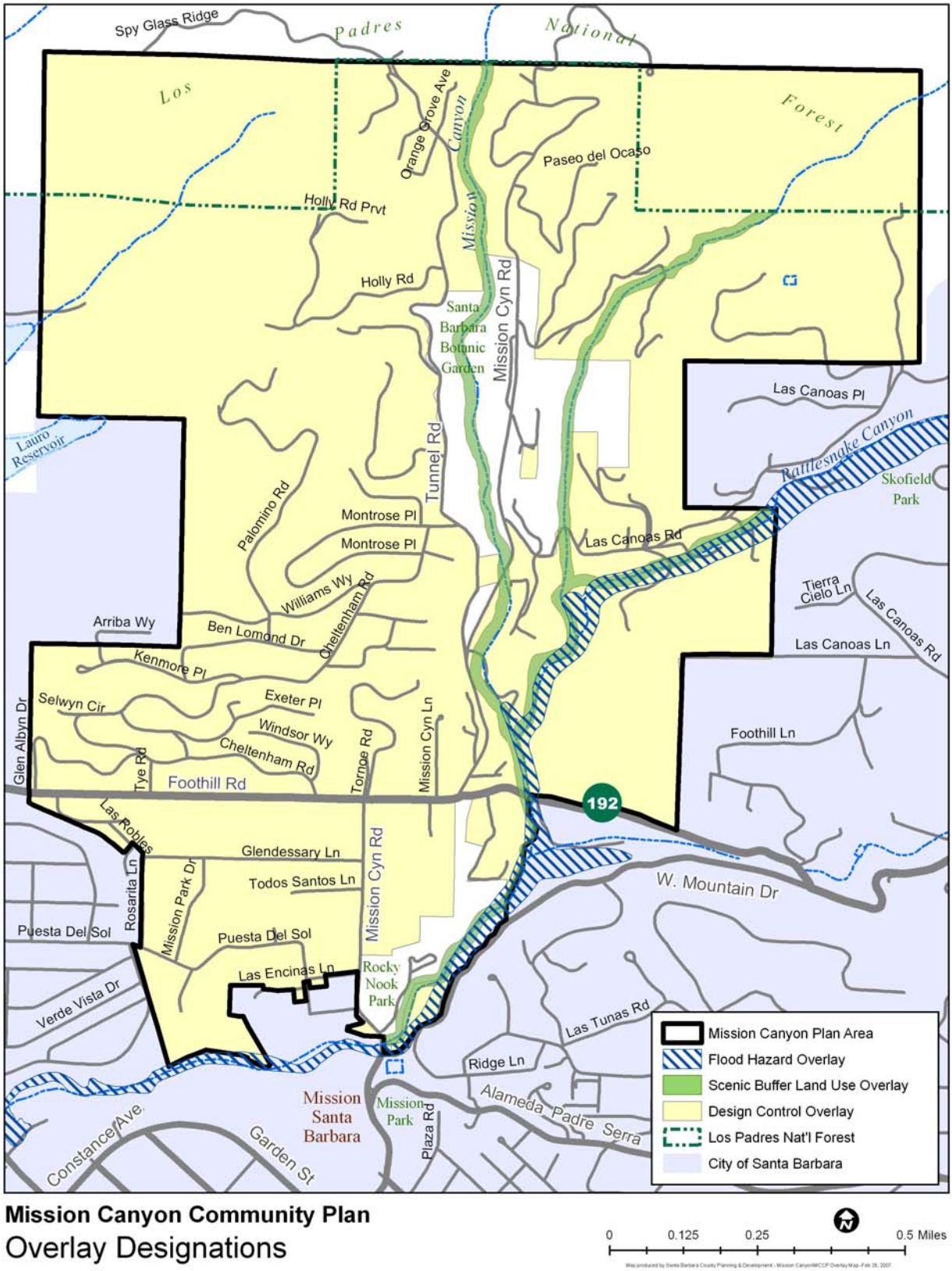


Figure 21 — Flood Hazard Overlay

The Resource Recovery and Waste Management Division of the Public Works Department enforce river and creek dumping violations under the authority of County Code Chapter 17, Ordinance #4188. The Division relies heavily on local residents to report any illegal dumping in streams and creeks.

Additionally, Public Works Department, Roads Division, maintains public street inlets and road gutters to prevent unnecessary flooding and drainage related problems. The Roads Division also monitors culverts and drainage ditches along public roads for debris and blockages. Caltrans is responsible for similar monitoring and maintenance along Highway 192.

d. Water Quality

The U.S. Environmental Protection Agency (EPA) has identified urban surface runoff as a significant cause of water pollution in the United States. Since March 2003, Santa Barbara County has been subject to federal National Pollutant Discharge Elimination System (NPDES) Phase II storm water regulations. Two main impacts result from development: changes in surface water hydrology and changes in water quality. Pollutants most frequently associated with storm water runoff include sediment, nutrients, bacteria, oxygen-demanding substances, oil and grease, heavy metals, other toxic chemicals, and floatables. The primary sources of the pollutants include automobiles and automobile use, housekeeping and landscaping practices, construction, accidental spills, illegal dumping and illegal connections to the storm drain system. Construction sites may be considerable sources of sediment, trace metals, nutrients, oil and grease, pesticides, herbicides, and other synthetic organic compounds.

These pollutants are transported by rain, irrigation, and other types of runoff that carry the contaminants to local streams. Examples include lawn and garden chemicals from urban areas transported by rain or irrigation runoff; household and automotive care products dumped onto streets and into gutters; fertilizers, pesticides, and sediment transported from agricultural lands and residential lots; sediment transported from roads, construction and developed land; and various air particulates that are deposited from the atmosphere.

Under Section 303(d) of the federal Clean Water Act, states are required to develop a list of water quality limited segments. A water body is listed as "impaired" when it does not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that states establish a priority ranking for waters on the list and develop action plans to improve water quality. Current 303(d) listed impairments on Mission Creek[48] are for "pathogens" and "toxicity" from unknown sources. Also, the Pacific Ocean at the mouth of Mission Creek is listed for "fecal coliform" and "total coliform", which are two common indicators of the presence of pathogens.

The County of Santa Barbara adopted the Storm Water Ordinance[49] in 2007 to implement the NPDES Phase II storm water regulations. The County's Land Use and Development Code requires project-appropriate controls to be in place to prevent or minimize water quality impacts.[50] Development standards and Best Management Practices (BMPs) have been adopted by the County,

48 State approved list October 25, 2006 and EPA approved November 30, 2006.

49 Ordinance No. 4654 amending Chapters 29 and 24A of the Santa Barbara County Code.

50 Santa Barbara County Planning & Development, Land Use & Development Code, Section 35.30.180, pg. 3-25.

and incorporated in the Standard Conditions of Approval and Standard Mitigation Measures. In addition, the County requires a grading (and erosion control) plan for any activities which move 50 cubic yards or more of earth materials.[51]

2. PLANNING ISSUES

- Land use intensification can have adverse impacts on watersheds, creeks, and down-stream properties. Removal of native vegetation on steep slopes, increased use of hardscape and impervious materials, and associated grading for building pad and access road construction can increase the amount and timing of surface runoff, soil erosion, and flood hazards affecting downstream properties.
- Streams and creeks, which are susceptible to erosion hazards from high flow, may require installation of bank protection improvements (e.g., pipe and wire revetment, gabions, etc.). While these improvements could provide increased protection from flooding, they could also create potentially significant impacts to biological resources.

Existing County and Mission Canyon Community Plan policies and development standards are designed to: avoid exposing new development to flood hazards; reduce local drainage problems associated with off-site runoff; reduce the need for future flood control protective improvements; protect receiving water from pollutants; and avoid alteration of natural stream environments.

3. FLOODING AND DRAINAGE GOALS, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL FLD-MC -1: **Provide adequate drainage and promote best management practices to minimize flooding and drainage problems in Mission Canyon.**

Policy FLD-MC-1: **Flood risks shall be minimized through appropriate design and land use controls.**

Policy FLD-MC-2: **Erosion associated with construction and the resulting development shall be minimized.**

DevStd FLD-MC-2.1: Development shall incorporate sedimentation traps or other effective measures to minimize the erosion of soils into natural and man-made drainages, where feasible. Development adjacent to stream channels shall be required to install check dams or other erosion control measures deemed appropriate by Flood Control and Planning and Development to minimize channel down-cutting and erosion. To the maximum extent feasible, all such structures shall be designed to avoid impacts to riparian vegetation.

DevStd FLD-MC-2.2: Grading and drainage plans shall be submitted with any application for development that would potentially increase total runoff from the site and/or substantially alter drainage patterns on the site or in its vicinity. The purpose of such plan(s) shall be to avoid or minimize hazards including but

51 Grading ordinance, Chapter 14, County Code.

not limited to flooding, erosion, landslides, and soil creep. Appropriate temporary and permanent measures such as energy dissipaters, silt fencing, straw bales, sand bags, and sediment basins shall be used in conjunction with other basic design methods to prevent erosion on slopes and siltation of creek channels. Such plan(s) shall be reviewed and approved by both County Flood Control and Planning & Development.

DevStd FLD-MC-2.3: Drainage outlets into creek channels shall be constructed in a manner that causes outlet flow to approximate the general direction of natural stream flow. Energy dissipaters beneath outlet points shall be incorporated where appropriate, and shall be designed to minimize erosion and habitat impacts.

DevStd FLD-MC-2.4: Excavation and grading for development shall be limited to the dry season of the year (i.e., April 15th to November 1st), unless an approved erosion control plan is in place and all measures therein are in effect, in accordance with the County Grading Ordinance.

DevStd FLD-MC-2.5: New development shall ensure that post-development runoff volumes achieve a net reduction from pre-development runoff volumes. Source control measures such as infiltration, evapotranspiration, and storage, retention and reuse shall be incorporated into site design to the maximum extent practicable.

GOAL FLD-MC-2: Protect stream corridors from sedimentation, pollutants or other impacts of upstream development.

Policy FLD-MC-3: Pollution of surface and ground water shall be avoided.

DevStd FLD-MC-3.1: Development shall incorporate best management practices (BMPs) to reduce pollutants in water runoff. The BMPs can include, but are not limited to: dry wells or cisterns for roof drainage or other roof downspout infiltration systems; modular unit pavers on sand or other porous pavement designed to infiltrate water for driveways, patios or parking areas; multiple-purpose detention systems, structural devices (e.g. grease, silt sediment, and trash traps), sand filters, or vegetated treatment systems (e.g. bioswales/filters).

DevStd FLD-MC-3.2: Construction site BMPs addressing erosion and sediment control, waste and material management, and protection of storm drain inlets and natural water courses shall be included on drainage plans and/or erosion and sediment control plans, and implemented, to prevent contamination of runoff from construction sites. These practices shall include, but are not limited to: appropriate storage areas for pesticides and other chemicals; use of washout areas to prevent drainage of wash water to storm drains or surface waters; erosion and sediment control measures; and storage and maintenance of equipment away from storm drains and water courses.

C. GEOLOGY, HILLSIDES, AND TOPOGRAPHY

1. SETTING

The topography of the Mission Canyon Plan Area ranges from gently rolling to steep with elevations from 250 feet above mean sea level (msl) to 1,075 feet above msl. Mission Canyon is in the Santa Barbara coastal plain, which extends from the Santa Ynez Mountains on the north to the Santa Barbara Channel on the south. Numerous active and potentially active folds and partly buried thrust faults of the Santa Barbara fold and fault belt underlie the coastal plain. Strong earthquakes occurred in the region in 1925 (6.8 magnitude) and 1978 (5.1 magnitude). Young landslide deposits along the steep lower flank of the Santa Ynez Mountains indicate the potential for slope failure and mass movements.[52]

2. PLANNING ISSUES

Three geologic features in the area are considered problematic: impermeable bedrock, faults and landslides. The bedrock is for the most part of marine origin and is in a constant state of uplift. Exposed bedrock formations include (from youngest to oldest), Monterey Shale, Rincon Shale, Vaqueros Sandstone and Sespe Formation. Fine-grained shale units that occur as sequences in the Sespe Formation and the middle shale unit of the Monterey Formation are particularly susceptible to landslides and other forms of downslope movement.

Bedrock is overlain by surficial deposits of alluvium and debris flows in the low-lying parts of Mission Canyon. Bedrock is close to the surface in mountainous areas, where the lack of permeable surface deposits can limit the area available for effluent absorption from septic systems.

Geologic hazards that may affect new development include fault surface rupture, ground shaking during earthquakes, landslides, soil creep, accelerated erosion, and radon gas. While earthquake hazards can affect the entire area, the problems relating to landslides and erosion are usually related to development in steeply sloping foothill areas. Approximately 80% of the land north of Foothill Road is on slopes exceeding 20%, while south of Foothill Road, most land is on slopes of less than 20%. Figure 22 illustrates the distribution of slopes in the Plan Area.

Earthquakes and Faults

Mission Canyon is in a zone of high seismic activity and potentially serious earthquakes, similar to most of California. The area could be subject to shaking from earthquakes on numerous faults, ranging from the San Andreas fault to local potentially active faults such as the More Ranch and Mission Ridge faults (Figure 23). For the purposes of this section, "active" faults are defined as those that have ruptured the surface during the Holocene Epoch (about the last 11,000 years). This definition is consistent with that provided in Special Publication 42 of the California Geological Survey. "Potentially Active" faults are defined as those that have ruptured the surface during the Quaternary Period (about the last 1.6 to 2 million years), but have not ruptured during the Holocene. Where the age of last displacement on a fault cannot be determined with confidence, the fault is considered to be potentially active.

52 United States Geological Survey, Preliminary Geologic Map of the Santa Barbara Coastal Plain Area, (2006).

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 prohibits the construction of buildings used for human occupancy on active faults. There are no faults in the Plan Area currently included within an Alquist-Priolo Earthquake Fault Zone designated by the State of California. Existing County regulations require development to be set back from known active and potentially active fault lines and require all structures to be designed to earthquake standards of the Uniform Building Code Seismic Zone 4 requirements (Zone 4 having the highest seismic potential) incorporated into the Building Code adopted by the County. These building design standards have been found adequate to address this regional geologic hazard.

Slope Stability

Slope stability is a site-specific issue that can affect proposed development projects on or adjacent to moderate and steep slopes. Much of Mission Canyon north of Foothill Road has a high landslide potential rating. Slopes in this area are naturally unstable and subject to failure even in the absence of development activities due to the weakness of rocks in moderately steep terrain.[53] Slope instability also results from saturation of soils during intense rain or water from irrigation or line breaks. Site-specific geotechnical investigations may be required as part of the Land Use Permit process to identify unstable slopes. Engineering measures adequate to allow access roads and buildings to meet standards of stability are required to be incorporated into any approved project. Alternatively, some projects can be redesigned to avoid unstable slopes; however, some projects may be denied if slope stability issues cannot be resolved through engineering measures or redesign. For the purposes of determining slope stability, there is no distinction made between natural and man-made slopes, and policies or development standards apply to all slopes, even if altered or disturbed in the past.

Radon Gas

The Rincon Shale formation, found at the top of Mission Canyon Heights and around the Palomino Road area, is typically composed of marine claystone and siltstone. These rocks have a high uranium content which decays and releases radon, a radioactive gas. The Rincon Shale formation in Santa Barbara is classified by the Environmental Protection Agency as having the "highest" potential for radon (greater than 4-pico Curies per liter).[54] Radon gas seeps upward through rock and soil layers, eventually reaching the ground surface. The gas may seep from the soil into buildings through cracks or other openings in floors or basements, potentially increasing in concentration once inside the building. If radon is known to have entered a home, it may be removed through proper ventilation and filters.

Soils

According to the Soil Survey of Santa Barbara County, there are eighteen different soil units in Mission Canyon (Figure 24). South of Foothill Road, the soil is mostly Ballard series comprised of alluvial fans with medium runoff and light erosion hazard. Mission Canyon Heights is mainly Zaca Clay with some portions of Milpitas series soils where runoff is rapid and erosion hazard is high. Upper Mission Canyon has small areas of Ayar Clay, Gaviota Sandy Loam, Milpitas series and Maymen Rock Outcrop complex and larger areas of Todos series and Lodo-Sespe Complex. With the exception of Todos Clay Loam and Ballard Variant, which are rated as medium runoff potential and light to moderate erosion hazard, the remaining soils have rapid runoff potential and high to very high erosion hazard.

53 California Division of Mines and Geology, Landslide Inventory Map of Southeastern Santa Barbara County, (2000).

54 Envicom Corporation, Santa Barbara Botanic Garden Draft Environmental Impact Report, (June 2007), pg. 4.6-13.

In terms of building site development, most of the soils in Mission Canyon are rated by the Soil Conservation Service as severe, which indicates that one or more soil properties or site features could require special construction and design efforts or intensive maintenance. Conformance with the County's Grading and Building Codes is generally satisfactory with respect to soil hazards but site-specific investigations may be required on sites adjacent to faults, landslides, or other geologic hazards or in any case where development is proposed in areas with a slope of 20% or greater. Due to slope, depth to bedrock and slow percolation, soils in Mission Canyon are known to be severely constrained for septic effluent disposal. Any new development to be served by a septic system would have to demonstrate adequate performance and compliance with current Regional Water Quality Control Board Basin Plan standards.

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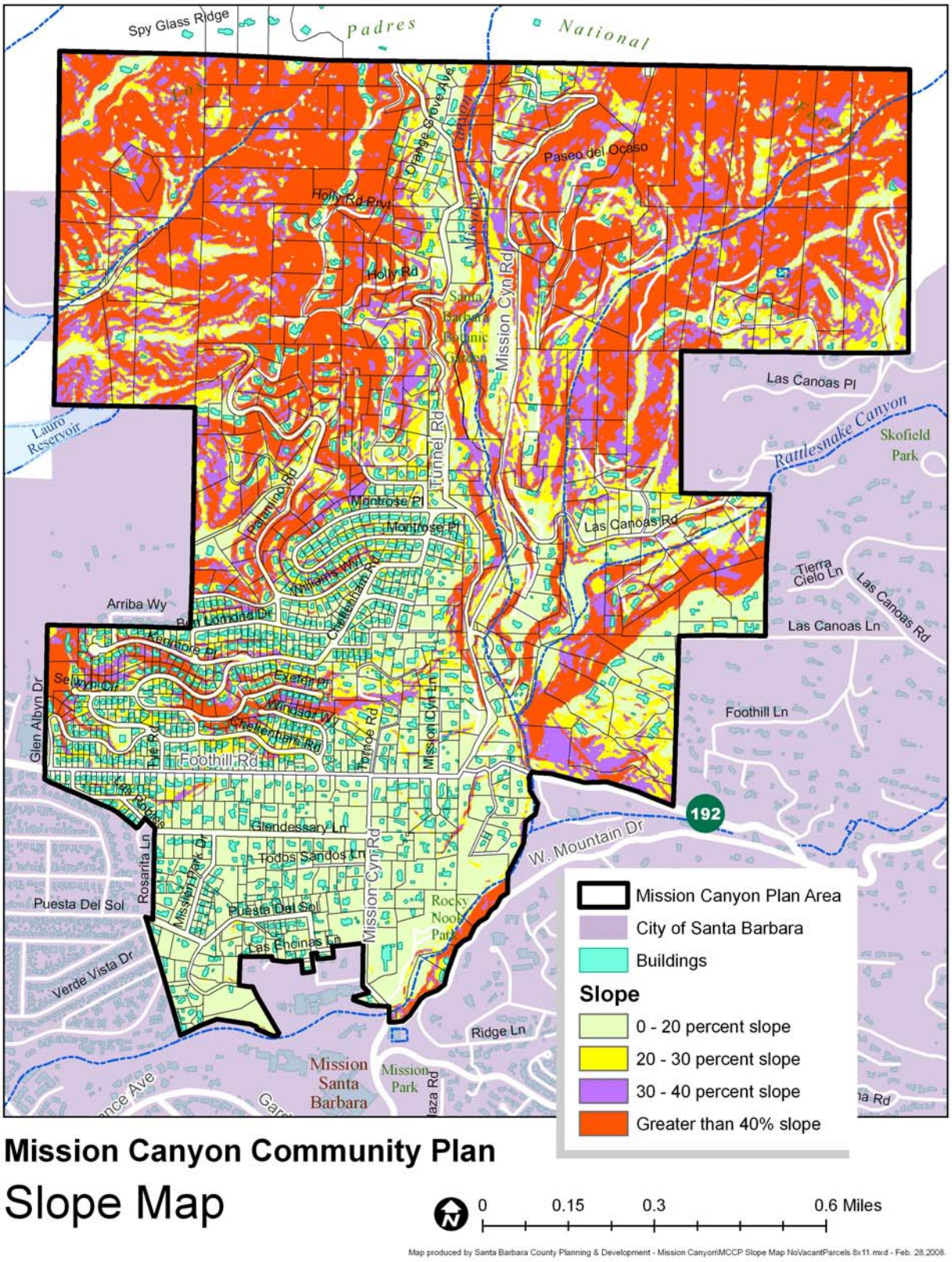

Figure 22 — Slope Map

The slope map is for illustrative purposes only. Site-specific mapping shall be required to accurately access slope.

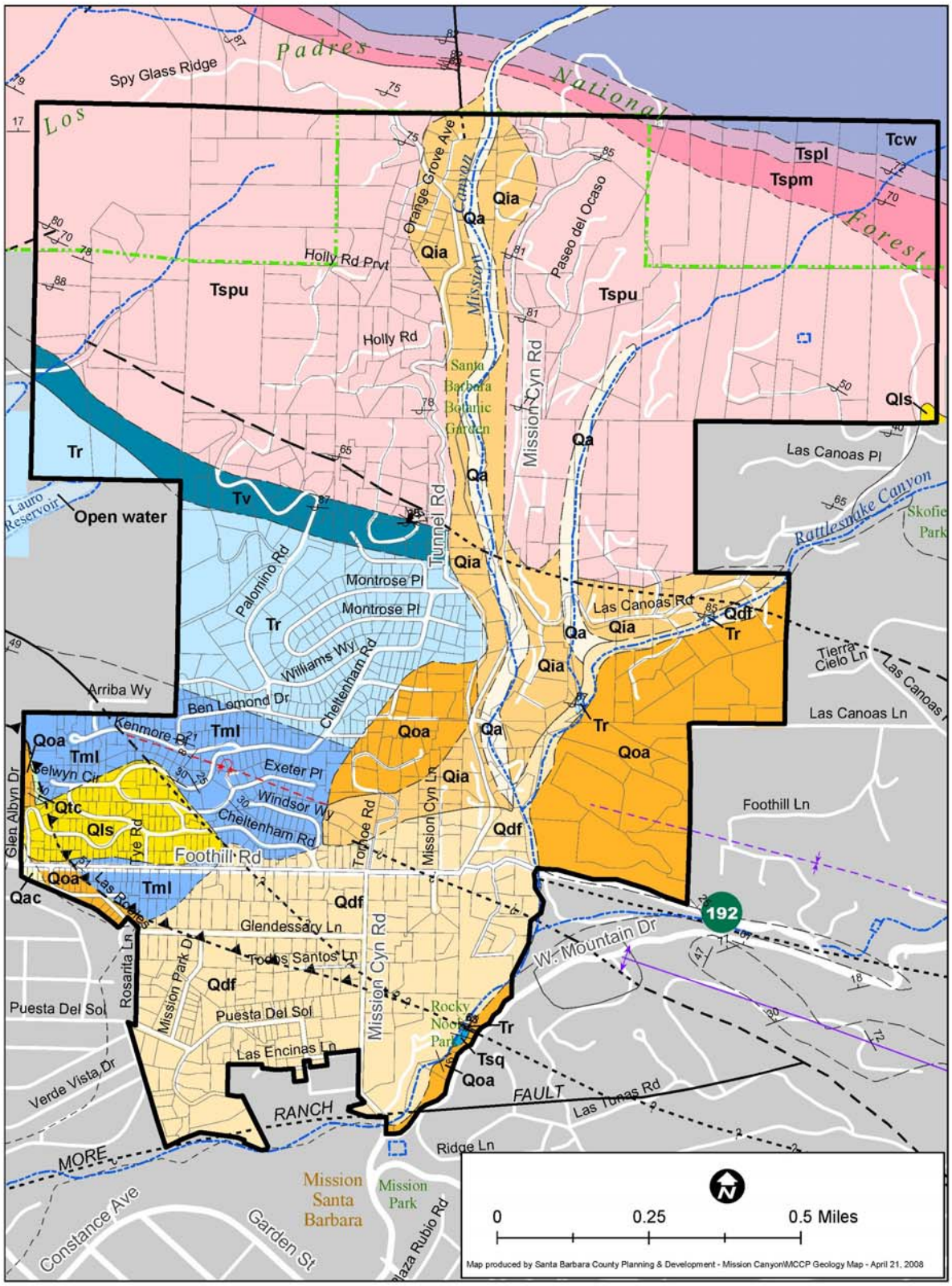

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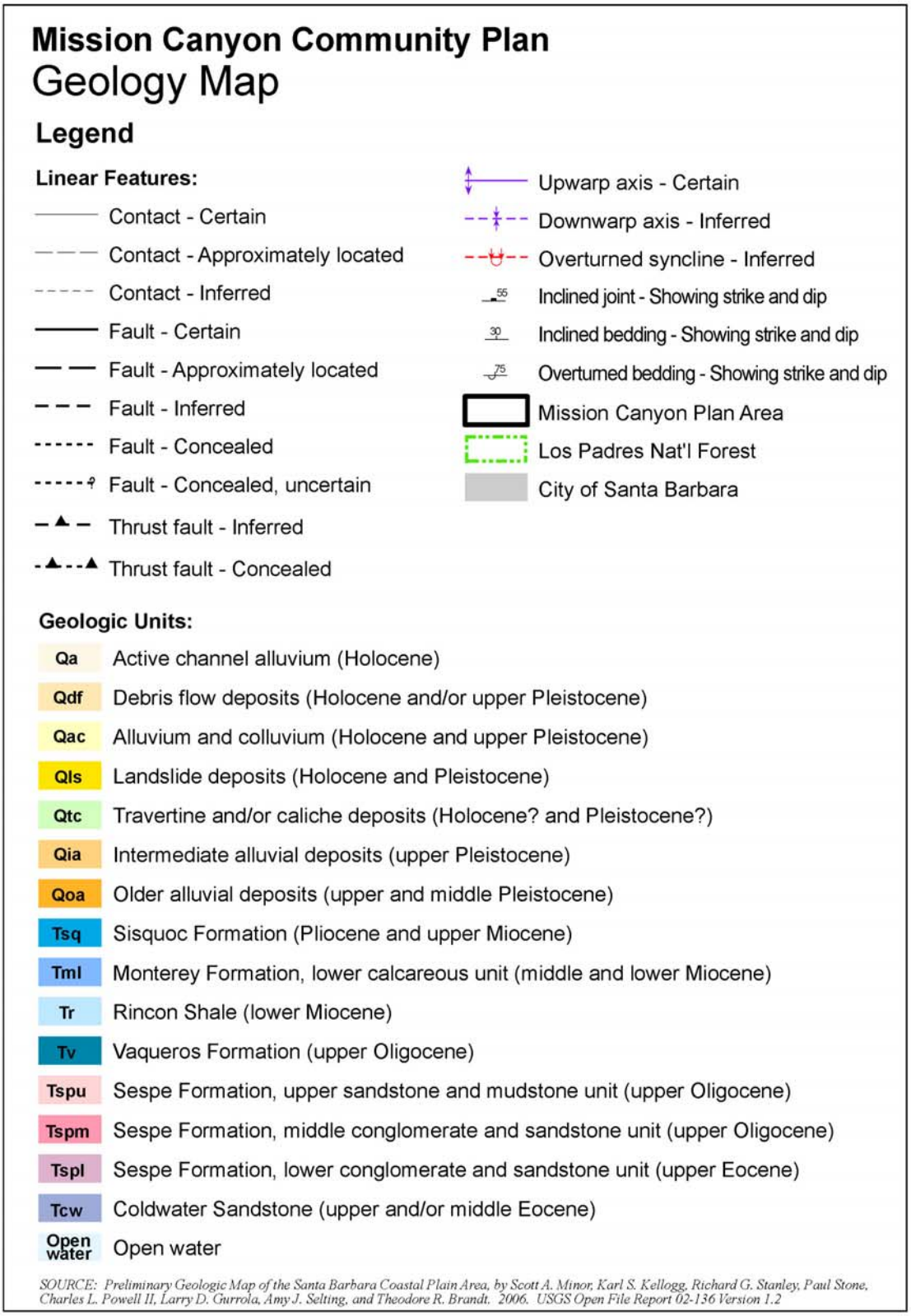
Figure 23 — Geology Map


Mission Canyon Community Plan
Geology Map
Legend
Linear Features:
Contact - Certain
Contact - Approximately located
Contact - Inferred
Fault - Certain
Fault - Approximately located
Fault - Inferred
Fault - Concealed
Fault - Concealed, uncertain
Thrust fault - Inferred
Thrust fault - Concealed
Upwarp axis - Certain
Downwarp axis - Inferred
Overturned syncline - Inferred
55
Inclined joint - Showing strike and dip
30
Inclined bedding - Showing strike and dip
75
Overturned bedding - Showing strike and dip
Mission Canyon Plan Area
Los Padres Nat'l Forest
City of Santa Barbara
Geologic Units:
Qa Active channel alluvium (Holocene)
Qdf Debris flow deposits (Holocene and/or upper Pleistocene)
Qac Alluvium and colluvium (Holocene and upper Pleistocene)
Qls Landslide deposits (Holocene and Pleistocene)
Qtc Travertine and/or caliche deposits (Holocene? and Pleistocene?)
Qia Intermediate alluvial deposits (upper Pleistocene)
Qoa Older alluvial deposits (upper and middle Pleistocene)
Tsq Sisquoc Formation (Pliocene and upper Miocene)
Tml Monterey Formation, lower calcareous unit (middle and lower Miocene)
Tr Rincon Shale (lower Miocene)
Tv Vaqueros Formation (upper Oligocene)
Tspu Sespe Formation, upper sandstone and mudstone unit (upper Oligocene)
Tspm Sespe Formation, middle conglomerate and sandstone unit (upper Oligocene)
Tspl Sespe Formation, lower conglomerate and sandstone unit (upper Eocene)
Tcw Coldwater Sandstone (upper and/or middle Eocene)
Open water Open water
SOURCE: Preliminary Geologic Map of the Santa Barbara Coastal Plain Area, by Scott A. Minor, Karl S. Kellogg, Richard G. Stanley, Paul Stone, Charles L. Powell II, Larry D. Gurrola, Amy J. Selting, and Theodore R. Brandt. 2006. USGS Open File Report 02-136 Version 1.2

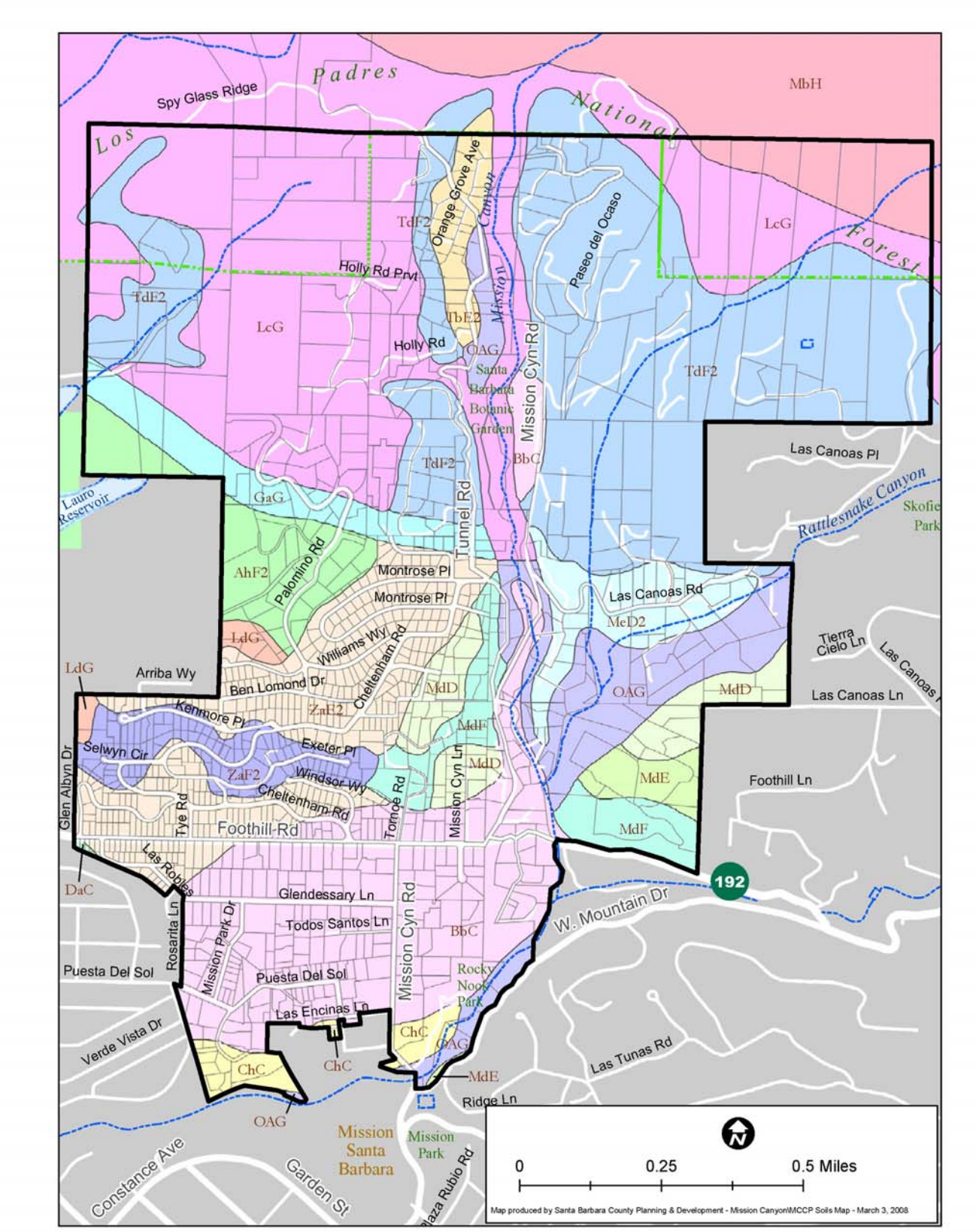
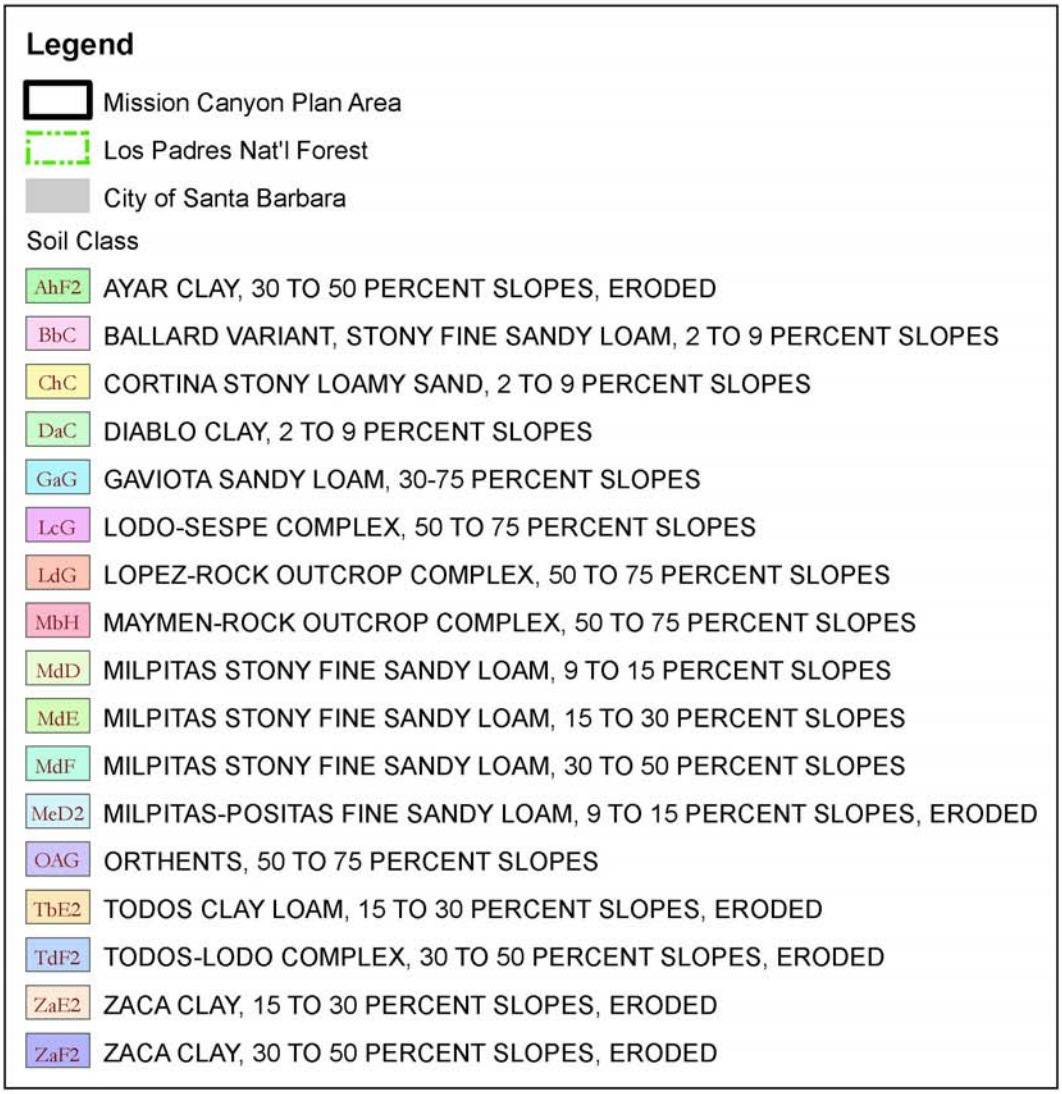


Figure 24 — Soils Map

The soils map is for illustrative purposes only. Site-specific soil mapping may be required for development.

Mission Canyon Community Plan

Soils Map



3. GEOLOGY, HILLSIDES AND TOPOGRAPHY GOAL, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL GEO-MC: **Protect the public health, safety and welfare by preserving hillside and watershed areas in the most natural state feasible.**

Policy GEO-MC-1: **Hillside and watershed areas shall be protected to the maximum extent feasible to avoid adverse geologic impacts and to preserve watershed function.**

DevStd GEO-MC-1.1: Development, including grading, shall be prohibited on natural and man-made slopes greater than 30% unless this would preclude development of a parcel to such an extent that an unconstitutional deprivation of property occurs. In areas of unstable soils, highly erosive soils, or on slopes between 20% and 30%, development shall not be allowed unless an evaluation by a qualified professional (e.g., geotechnical engineer, engineering geologist, etc.) establishes that the proposed project will not result in unstable slopes or severe erosion, or unless this would preclude development of a parcel to such an extent that an unconstitutional deprivation of property occurs. Grading and other site preparation shall be minimized to the maximum extent feasible.

DevStd GEO-MC-1.2: In order to minimize erosion, landscape plans shall be required for development on slopes greater than 20% and for any project requiring a grading permit. Such plans shall include revegetation of graded areas with appropriate firewise planting designed to blend with the natural terrain and stabilize slopes. Landscape plans will be subject to review and approval by the South Board of Architectural Review.

Policy GEO-MC-2: **Grading shall be designed to minimize scars in topography and avoid the potential for earth slippage, erosion and other safety risks.**

DevStd GEO-MC-2.1: The shape, height and grade of any cut or fill slope shall be developed to blend with existing contours and scale of the natural terrain as follows.

1. Natural stream channels shall be maintained wherever possible.
2. The angle of the graded slope shall be gradually adjusted to the angle of the natural terrain.
3. Graded slopes shall be concealed wherever possible, and revegetation of those slopes with firewise plantings shall be required.
4. The toe and crest of any slope in excess of 10 feet vertical height, excepting the toe of any slope within 25 feet of a dwelling, shall be rounded with vertical curves of radii no less than five feet and designed in proportion to the total height of the slope. Any manufactured slope bank in excess of the 10 feet vertical shall have variable gradients.

5. Where cut and fill slopes more than three feet are created, a detailed landscape and irrigation plan shall be prepared as part of the grading permit review process.

DevStd GEO-MC-2.2: Temporary erosion control measures, as determined by Planning & Development using Best Management Practices, shall be used to minimize on- and off-site erosion related to construction.

Dev Std GEO-MC-2.3: Where feasible, development on previously cleared slopes that show scarring or significant disturbance shall include plans for appropriate revegetation of the affected areas.

DevStd GEO-MC-2.4: Revegetation and/or landscaping of project sites shall be accomplished as soon as is feasible following grading/vegetation clearing in order to hold soils in place.

Policy GEO-MC-3: Excessive grading for the sole purpose of creating or enhancing views shall not be permitted. Typically, grading should not place more than five (5) feet of fill above natural grade.

Policy GEO-MC-4: Development shall be sited and designed to minimize the potential for geologic hazards, including but not limited to, seismic, soil, or slope hazards.

DevStd GEO-MC-3.1: The County shall require site-specific geologic and/or geotechnical investigation(s), prepared as appropriate by a Professional Geologist, Certified Engineering Geologist, and/or licensed Geotechnical Engineer, on sites that are on or adjacent to faults, landslides, or other geologic hazards or in any case where development is proposed in areas where the slope is 20% or greater. Where applicable, the measures recommended to avoid or mitigate geologic hazards shall be incorporated into the proposed development in a manner that avoids or minimizes any potential adverse effects of such measures (for example, hillside scarring).

DevStd GEO-MC-3.2: Structures shall be prohibited within fifty feet of an Active or Potentially Active fault. All structures shall be built according to Uniform Building Code Seismic Zone 4 standards or such other standards as may be in effect

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D. HISTORY AND ARCHAEOLOGY

1. PREHISTORIC SETTING

Santa Barbara County is one of California's richest areas for archaeological resources. Research indicates that the mainland was inhabited at least 9,000 years ago, with evidence for habitation on the Channel Islands at least 10,000 years ago, representing some of California's earliest coastal populations. At one time there were hundreds of separate Chumash villages, temporary camps, fishing and hunting sites, and ceremonial sites throughout the area, dating from the Prehistoric to the Mission Periods. Some were as large as towns while others were quite small.

Numerous archaeological sites are located within or near to the Mission Canyon Plan Area. Among them, two major villages known to the Chumash as syuxtun and xana'yan were located near Mission Creek, which the Chumash depended upon for fresh water. The syuxtun settlement was a large town located where Mission Creek emptied into the ocean, while xana'yan was a small yet important village in Mission Canyon. Inhabitants from the village of xana'yan were probably first encountered by the Spanish while camped at Arroyo Burro during the Portolá expedition of 1769-1770. A system of regional economic exchange tied villages in Mission Canyon to other Chumash settlements, including syuxtun.[55]

Mission Canyon is considered to be archaeologically sensitive due to the presence of a wide range of mapped prehistoric and historic sites. Archaeological investigations of the Mission Canyon area include a "Cultural Resources Sensitivity Assessment" prepared in 1983, which documented known historic and prehistoric cultural resources within the South of Foothill and Mission Canyon Heights neighborhoods. A second report prepared in 1984 contains the results of an intensive Phase II cultural resource investigation for the same area. The survey resulted in the recording and mapping of 17 cultural resources, 15 of which were previously unrecorded. In terms of broad classification, four resources were prehistoric Native American archaeological sites, two were Spanish period archaeological sites and eleven were historic architectural sites. Applications for private development have generated survey reports that locate additional sites in Mission Canyon. Due to the area's richness, there is a possibility for unmapped archaeological resources to be present throughout the Plan Area.

2. HISTORIC SETTING

Following the first Spanish expeditions, historic occupation in the area can be divided into three settlement periods: the Mission Period (1769-1830); the Rancho Period (1830-1865) and the American Period (1865-1915). Construction of the Mission at the foot of Mission Canyon in 1786, and the establishment of numerous ranchos altered both the physical and cultural landscape of the region. During the Mission Period, Mission Creek was dammed (at a site presently occupied by the Santa Barbara Botanic Garden) to provide water for the Mission complex. A stone aqueduct system was constructed to carry water by gravity from the dam to the Mission. Remnants of the aqueduct can still be seen along Mission Canyon Road and are presumed to exist on private property between the Botanic Garden dam and the Mission.

55 Santa Barbara Historical Society, Noticias Vol. XXXII, No. 2, (Summer 1986), pg. 21-23.

The Rancho Period spanned the time when Santa Barbara was under both Mexican and American rule. The name "rancho" refers to the cattle ranches that were established when large areas of California were distributed from the Mexican governor to people of influence. A shift from cattle ranching to farming and other more intensive land uses marked the beginning of the American Period. Regional changes in the County have encompassed the development of railroads, agriculture, the oil industry and the presence of military bases.

By the 1880s, Mission Canyon was populous enough to sustain its own elementary school, located just west of where Fire Station 15 is located today. Another landmark was a boarding house at the entrance to Mission Canyon, the Rockwood Inn, which burned in 1927. Subsequently, the land was purchased by the Santa Barbara Woman's Club, which hired Joseph Plunkett to build the "Rockwood" clubhouse in 1928.

3. HISTORIC STRUCTURES AND LANDMARKS

The rich history of Mission Canyon has included a number of important structures and historic resources. The County has two categories of protection for historic structures and sites: *Place of Historic Merit* or *Landmark*. Designation as a Place of Historic Merit officially recognizes the building or site as having historic, aesthetic or cultural value but does not restrict demolition, removal, alteration or use. A designated Landmark is a higher level of recognition that includes conditions restricting its demolition, removal, alteration or use. The Santa Barbara Historic Landmarks Advisory Commission has designated two places in Mission Canyon as County Landmarks, listed in Table 12.

Table 12: County Designated Landmarks in Mission Canyon

APN	Address	Historic Resource
023-221-042	2620 Glendessary Lane	English Tudor Mansion
023-340-013, 023-340-014 & 023-340-015	1212 Mission Canyon Road	Western portion of the Santa Barbara Botanic Garden, Mission Dam, and Aqueduct.

Glendessary

Glendessary was designed by Samuel Isley and built in 1900 for Robert Cameron Rogers, who composed within its walls the lyrics to the classic ballad "The Rosary". Landmark status was proclaimed by the Board of Supervisors in 1968.

The Santa Barbara Botanic Garden

The idea for a botanic garden in Santa Barbara was developed in 1926 by a group of citizens together with Dr. Frederic Edward Clements, ecologist of the Carnegie Institution in Washington D.C. Funding for purchase of the land and an endowment were provided by Anna Dorinda Blaksley Bliss. Originally undertaken with the Santa Barbara Museum of Natural History, the Botanic Garden incorporated as a separate organization in 1939.[56]

In 1983, the Board of Supervisors designated the Mission Dam within the Botanic Garden as County Landmark #24. In 2003, the existing County Landmark #24 was expanded to include the entirety of Assessor's Parcel Number (APN) 023-340-014 and the aqueduct located thereon, as well as APN

56 Santa Barbara Historical Society, Noticias, Vol. L No. 4/Vol. LI No. 1, (Winter 2004/Spring 2005), pgs. 3-10.

023-340-013 and 023-340-015 to be known thereafter as Santa Barbara Botanic Garden, Mission Dam and Aqueduct. The landmark designation of the Santa Barbara Botanic Garden, Mission Dam and Aqueduct included a condition that prohibits demolition, removal or destruction, partially or entirely, of the following structures unless express consent in writing is first had and obtained from the Historic Landmarks Advisory Commission, with reasonable conditions imposed as deemed necessary:

- Mission Dam and Aqueduct
- "Indian Steps"
- Entry Steps (1948)
- Information Kiosk (1937)
- Original Library (1941)
- Campbell Bridge
- Caretakers Cottage (1972); provided that the Historic Landmarks Advisory Commission expressly consents to the relocation of the Caretaker's Cottage to another site in the Santa Barbara Botanic Garden.

No changes that substantially deviate from the historic landscape design concept as defined in the resolution, or historic use of the landmark property are permitted unless express consent in writing is first had and obtained from the Historic Landmarks Advisory Commission, with reasonable conditions imposed as deemed necessary.[57]

Mission Canyon has an array of additional historic resources including sandstone walls, bridges and aqueduct traces and numerous historic and architecturally significant homes that may be eligible as County Landmarks or Places of Historic Merit. According to the County's Environmental Thresholds and Guidelines Manual, any structure 50 years or older is considered a potentially significant historic resource.

4. HISTORY AND ARCHAEOLOGY GOAL, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL HA-MC: **Preserve and protect historically significant landscapes, Places of Historic Merit or Landmarks, and other cultural, archaeological and historical resources in Mission Canyon.**

Policy HA-MC-1: **Archaeological resources shall be protected and preserved to the maximum extent feasible.**

DevStd HA-MC-1.1: A Phase I archaeological survey shall be performed when identified as necessary by a county archaeologist or contract archaeologist or if a county archaeological sensitivity map identifies the need for a study. The survey shall include all areas of projects that would result in ground disturbances. If the archaeologist performing the Phase I report, after conducting a site visit, determines that the likelihood of an archaeology site presence is extremely low, a short-form Phase I report may be submitted.

57 Santa Barbara County Resolution 03 – 059 proclaiming the Santa Barbara Botanic Garden as a Historical Landmark, February 25, 2003.

DevStd HA-MC-1.2: All feasible recommendations of an archaeological report including completion of additional archaeological analyses (Phase 2, Phase 3) and/or project redesign shall be incorporated into any permit issued for development.

Action HA-MC-1.3: The County shall work with qualified archaeologists and historians to identify, survey, and map parcels that potentially contain portions or traces of the Mission Santa Barbara Aqueduct. The County shall coordinate with the Historic Landmarks Advisory Committee to develop a program for protection of the aqueduct features.

Policy HA-MC-2: Historic resources shall be protected and preserved to the maximum extent feasible.

DevStd HA-MC-2.1: No permits shall be issued for any development or activity that would adversely affect the historic value of the properties listed in Table 11 unless a professional evaluation of the proposal has been performed pursuant to the County's most current Regulations Governing Archaeological and Historical Projects, reviewed and approved by Planning and Development and all feasible mitigation measures have been incorporated into the proposal.

Action HA-MC-2.2: The County and the community should work to identify structures and places that qualify for nomination to Place of Historic Merit or Landmark Status and forward these requests to the Historic Landmarks Advisory Commission.

Action HA-MC-2.3: The County shall pursue funding from federal, state and local sources to conduct historic resources surveys of Mission Canyon with consultation from the Historic Landmarks Advisory Commission, and citizen resources such as the Mission Canyon Association, Pearl Chase Society, Santa Barbara Historical Society and other relevant entities.

Action HA-MC-2.4: The County shall consider adopting the State Mills Act program to offer property tax abatement incentives to qualified historic properties.

E. VISUAL AND AESTHETIC RESOURCES

1. SETTING

a. Plan Area Setting

The foothills and sheer upper face of the Santa Ynez Mountains, the riparian corridors of Mission and Rattlesnake Creeks, and the Pacific coastline provide vistas of great natural beauty visible from major travel corridors as well as from public trails, streets, and parks. Due to its topography, parts of Mission Canyon are highly visible from areas of the City of Santa Barbara and the South Coast including Highway 101, the Mesa, the north slopes of the Riviera, and Foothill Road west of the Plan Area. Major view corridors within Mission Canyon include Mission Canyon, Tunnel and Las Canoas Roads, and State Route 192 (Foothill Road). Many public roads, particularly in Mission Canyon Heights, have spectacular views of the City of Santa Barbara and the Channel Islands. Informal landscapes, century-old stone walls, and diverse residential styles lend a scenic ambiance to the local streetscape. With few street lights and minimal night-lighting, Mission Canyon offers spectacular views of the nighttime sky.

Mission Canyon Road is heavily traveled and represents a "gateway entrance" into the Canyon. The road is frequented by residents and visitors alike and is considered a scenic corridor that physically and visually differentiates Mission Canyon from the City of Santa Barbara. Development in the scenic corridor deserves special consideration to ensure it does not detract from the historic character, natural surroundings, and aesthetics of the neighborhood. Protection of visual resources in this area merits a heightened level of design review.

The visual character is also influenced by the design of the built environment. Eclectic architectural styles and design elements provide a unique community identity. Outside of riparian corridors, the lush landscaping is largely a result of deliberate plantings as revealed by photographs of Mission Canyon Heights from the 1950s that show largely barren hills. Areas of the Canyon are lined with cut sandstone walls and bridges that provide visual character and a historic context.

b. Regulatory Setting

The Land Use Element (LUE) and Open Space Element of the County General Plan include policies to protect and enhance visual resources. The LUE Hillside and Watershed Protection Policies, as well as the Hillside and Ridgeline Protection Ordinance (Ord. 3714) regulate development on slopes to minimize grading, disruption of natural vegetation and erosion. Visual Resource Policies in the LUE include measures to ensure compatibility of structures with the surrounding natural environment and/or existing community through structural design review and landscaping requirements. The Open Space Element identifies the County's scenic beauty as a principal factor in the attraction of residents and visitors, evaluates the visual quality of natural resources and travel corridors, and emphasizes the importance of urban perimeters. The Land Use and Development Code sets development standards such as the 35 feet maximum height limit for structures within the Mission Canyon Community Plan Area.[58] This maximum allowable height may be lowered to 25

58 Santa Barbara County Planning & Development Land Use & Development Code (2007) Section 35.21.050 - Agricultural zones, pg. 2-20 and Section 35.23.050 – Residential zones, pg. 2-51.

feet for structures subject to the Hillside and Ridgeline Development Guidelines, subject to the discretion of the Architectural Board of Review.[59]

To ensure special protection of the aesthetic resources of the Canyon, the "D" Design Overlay Zone is applied to all of the Mission Canyon Community Plan Area, except the parcels zoned for Recreation (because Recreation zoned parcels already require design review as part of development plan review). The D Overlay Zone requires County Board of Architectural Review approval for all new structures including additions and alterations, except for certain exemptions as specified in the Land Use and Development Code.[60] The intent of using this overlay zone is to ensure well designed development and protect scenic qualities, property values and neighborhood character.

The Mission Canyon Architectural and Development Review Committee (ADRC) should review plans for new projects in Mission Canyon prior to submission to the County. The purpose of the review is to identify potential design problems and work cooperatively with applicants to develop projects that meet County criteria and contribute to the character and quality of Mission Canyon neighborhoods.

2. PLANNING ISSUES

Visual and Aesthetic Issues

Recent and proposed residential development threatens to degrade the aesthetic character of Mission Canyon. As flat lots have become scarce, residential development has pushed into the foothills. Such foothill development often includes extensive grading and vegetation removal for homes and driveways, producing unattractive scarring in a highly visible area. Vegetation clearance for fire safety can also be highly visible. Steeply sloped lots are sometimes developed with homes that, if not stepped back into the lot, present an extreme apparent height for downhill viewers. These homes are highly visible from public roads in Mission Canyon and the City of Santa Barbara.

Demolishing smaller homes to build larger dwellings is becoming common and is also altering the visual character. Larger dwellings pose neighborhood compatibility issues if the size is significantly larger than those in the existing neighborhood. Residents have expressed concern over building heights and the scale of new homes and remodels that obstruct or degrade mountain or ocean views from public roads, trails and private homes.

The relative darkness of the nighttime sky is highly valued by Mission Canyon residents. However, there is concern that over-illumination and light trespass from new and existing homes will degrade the quality of the dark sky. Outdoor Lighting Regulations for the Mission Canyon Plan Area are included in the Land Use & Development Code (Section 35.30.120) to preserve and protect the nighttime environment of Mission Canyon by regulating unnecessary and excessive outdoor lighting.

The construction of new walls and fences in areas that formerly did not have them has also become a visual issue for residents. While recognizing the need for privacy and screening from cars along busy roads, residents value the sense of openness and the landscaping and attractive homes seen along the streetscape and would like to deter the "canyon" effect of higher walls fronting roadways.

59Santa Barbara County Planning & Development Land Use & Development Code (2007) Section 35.62.040, pg. 6-9..

60 Ibid, Section 35.20.040, 2-6.

The Residential Design Guidelines are developed to provide guidance on size, bulk, and scale of new and remodeled homes, the aesthetic aspects of house siting and design and appropriate materials and height for walls (including retaining walls) and fences. Existing County and Mission Canyon Community Plan policies and development standards are designed to protect public views and minimize the visual impacts of grading and exterior lighting.

MISSION CANYON SCENIC CORRIDOR

The gateway entrance into Mission Canyon transitions from the open, historic setting of Mission Santa Barbara founded in 1786, to the verdant corridor of Mission Canyon Road where lush, informal gardens behind the sandstone walls establish a typical Mission Canyon ambiance. Scenic and historic features from Mission Santa Barbara on Los Olivos Street into Mission Canyon Road, which begins at the intersection with Mountain Drive, are listed in Table 13 below and noted on Figure 25.

Table 13 – Scenic Corridor and Adjacent City of Santa Barbara Features

Map Reference Number	Feature	Additional Information
1	Mission Santa Barbara, Mission Historical Park and Rose Garden	Mission Santa Barbara and Mission Historical Park are California State, National Historic and City of Santa Barbara Landmarks. Remnants of the aqueduct, built to convey water from the Mission Dam in the Botanic Garden to the Mission, can be seen on both sides of Los Olivos Road.
2	Stone bridge over Mission Creek	The low stone bridge was built in 1891 to replace a wooden bridge over Mission Creek. The bridge signals the transition into Mission Canyon with views of Mission Creek and sycamores and oaks.
3	Santa Barbara Museum of Natural History	The museum, founded in 1916, is set on approximately 11 acres within a cluster of Spanish-style buildings adjacent to Mission Creek. Glimpses of the museum grounds can be viewed from Mission Canyon Road.
4	Entrance to Rocky Nook Park	Just past the stone bridge on the right lies the road into scenic Rocky Nook Park, which is the start of the Scenic Corridor.
5	Santa Barbara Woman's Club	Adjacent to Rocky Nook Park is the Woman's Club, an attractive building set back far into its lot with front yard landscape of native oaks and boulders.
6	Glendessary	As noted in Table 11, Glendessary is a County Landmark. The structure is not fully visible from Mission Canyon Road.

Note: Map reference numbers 1, 2, and 3 are in the City of Santa Barbara

Other visual and aesthetic features of the Scenic Corridor (not referenced on Figure 25) include the original sandstone walls and pedestrian pathway along the street frontage on the west side of Mission Canyon Road, views of La Cumbre Peak and glimpses of attractive homes and front yard landscapes.

To recognize and preserve the special character, history and scenic appeal of the gateway entrance to Mission Canyon, the Mission Canyon Scenic Corridor is designated on lots adjacent to Mission Canyon Road from Rocky Nook Park to the intersection with Foothill Road (Figure 24). The Scenic Corridor is characterized, in part, by the siting of attractive homes set well back from Mission Canyon Road. These elements provide an appealing viewshed and should be preserved and protected under this designation.

Phase I of the Scenic Corridor program includes the implementation of development standards (included in Section 35.28.210 of the Land Use & Development Code) to address setbacks, detached

accessory structures, and fences, gateposts and walls. The South Board of Architectural Review and the Historic Landmarks Advisory Commission will have review authority for projects within the Scenic Corridor to ensure due attention is paid to both scenic and historic aspects of the corridor. Phase II for the Scenic Corridor (Action VIS-MC-2.2) is proposed to design and implement a streetscape plan including: coordination with the City of Santa Barbara and Santa Barbara Museum of Natural History to improve pedestrian access, a signage and landscaping plan, and pursuit of a utility undergrounding program.

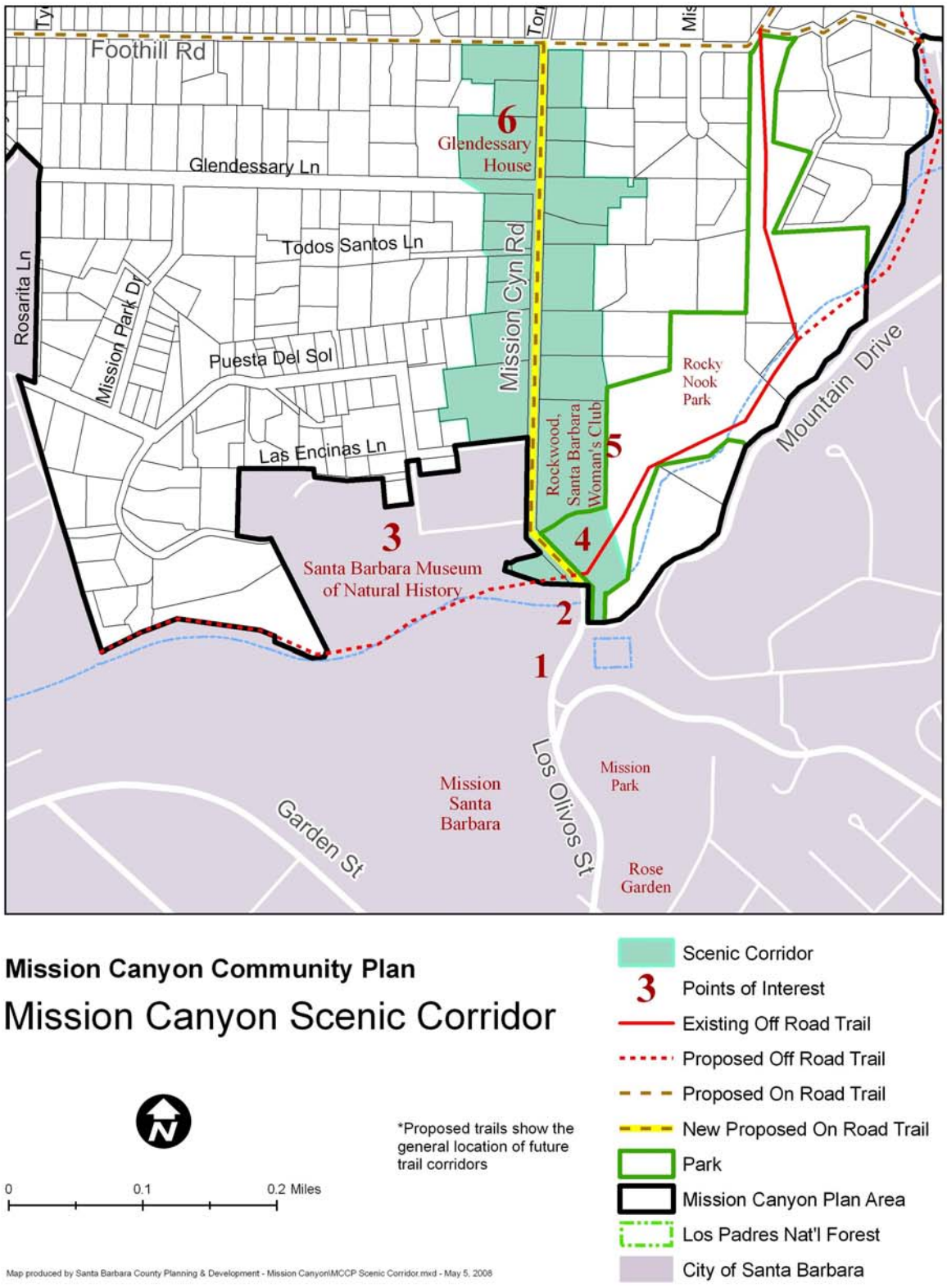

Figure 25 — Mission Canyon Scenic Corridor

3. VISUAL AND AESTHETIC RESOURCES GOALS, POLICIES, DEVELOPMENT STANDARDS AND ACTIONS

GOAL VIS-MC-1: **Protect the character and natural features of Mission Canyon, including public views of the mountains and ocean and the quality of the nighttime sky.**

Policy VIS-MC-1: **Development shall be sited and designed to protect public views.**

DevStd VIS-MC-1.1: Development shall be sited and designed to minimize the obstruction or degradation of public views.

DevStd VIS-MC-1.2: Development and grading shall be sited and designed to avoid or minimize hillside and mountain scarring and minimize the bulk of structures visible from public viewing areas. Mitigation measures may be required to achieve this goal, including but not limited to increased setbacks, reduced structure size and height, reductions in grading, extensive landscaping, low intensity lighting, and the use of narrow or limited length roads/driveways, unless those measures would preclude development of a parcel to such extent that an unconstitutional deprivation of property occurs or pose adverse public safety issues.

DevStd VIS-MC-1.3: Development shall not occur on ridgelines if suitable alternative locations are available on the property. When there is no other suitable alternative location, structures shall not intrude into the skyline or be conspicuously visible from public viewing places. Additional measures such as an appropriate landscape plan and limiting the height of the building may be required in these cases.

Policy VIS-MC-2: The night sky of Mission Canyon shall be protected from excessive and unnecessary light associated with new development and redevelopment.

DevStd VIS-MC-2.1: All new development and redevelopment in the Plan Area shall be subject to the requirements of the Mission Canyon Outdoor Lighting Ordinance.

GOAL VIS-MC-2: **Protect the visual and aesthetic value of gateway roads, stone walls, and other scenic portions of the Plan Area roadways.**

Policy VIS-MC-3: **In recognition of the special character, history, and appeal of Mission Canyon, in particular Mission Canyon Road and adjacent properties from Rocky Nook Park to the intersection with Foothill, this area shall be designated as the "Mission Canyon Scenic Corridor" and all plans for new or altered buildings and structures shall be subject to the Mission Canyon Community Plan Overlay development standards.**

Action VIS-MC-3.1: The County shall amend the Land Use and Development Code to apply a Mission Canyon Community Plan Overlay with specific development standards to protect the Mission Canyon Scenic Corridor.

Action VIS – MC-3.2: Planning & Development Department shall work with Public Works, Parks Department, the City of Santa Barbara, and area residents to seek grants and other funding sources to design and implement the Phase II Streetscape Plan for the Mission Canyon Scenic Corridor The streetscape plan should include, but is not limited to, the following programs:

- Designation of on-street and off-street pedestrian trails;
- Investigation and removal of encroachments into pedestrian trails;
- Safe pedestrian access between the Old Mission and the Santa Barbara Museum of Natural History;
- A signage plan;
- Landscaping recommendations; and
- A utility undergrounding program.

Action VIS-MC-3.3: The County shall investigate the feasibility of establishing a utility undergrounding program along other scenic roads in Mission Canyon based on the most current California Public Utilities Commission's Rule 20 criteria for eligibility.

GOAL VIS-MC-3: Maintain and enhance the aesthetic qualities of the community in all aspects of residential development and landscaping.

Policy VIS-MC-4: Development shall be sited, designed, and scaled to be compatible with neighborhood character, to protect resources such as sensitive habitat and visual resources, and to respect site constraints such as steep slopes.

DevStd VIS-MC-4.1: Development, including houses, roads and driveways, and accessory buildings shall be sited, designed, and scaled to be compatible with and subordinate to significant natural features such as major rock outcroppings, mature trees and woodlands, drainage courses, visually prominent slopes, and hilltops and ridgelines.

DevStd VIS-MC-4.2: Grading for development, including primary and accessory structures, access roads (public and private) and driveways, and vegetation clearance for fire safety purposes shall be kept to a minimum and shall be performed in a way that:

- Minimizes scarring; and
- Maintains to the maximum extent feasible the natural appearance of ridgelines and hillsides.

DevStd VIS-MC-4.3: All plans for new or altered buildings and other structures should be reviewed by the Mission Canyon Architectural and Development Review Committee (ADRC) prior to plan submittal to the County.

References

City of Santa Barbara, Existing Conditions Study, August 2005 Draft.

Envicom Corporation, Santa Barbara Botanic Garden Draft Environmental Impact Report, June 2007.

Interface Planning and Counseling Corporation. Final Environmental Impact Report Mission Canyon Area Wastewater Facilities Plan. 83-EIR-13. November 1983.

Minor, Scott, et al. Preliminary Geologic Map of the Santa Barbara Coastal Plain Area, USGS Open File Report 02-136. 2006.

S. Bezore and C.J. Wills. Landslide Inventory Map of Southeastern Santa Barbara County, California Division of Mines and Geology. 2000.

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Santa Barbara County Planning &Development, Toro Canyon Plan, 2004.

Santa Barbara Historical Society Noticias Vol. XXXII, No. 2 Summer 1986.

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State of California, General Plan Guidelines, Office of Planning and Research, 1990.

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Appendices

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APPENDIX A: JOINT POWERS AGREEMENT

(to be included at a later date)

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APPENDIX B: TRAIL SITING GUIDELINES

I. GENERAL

The following are general trail guidelines applicable to all proposed trails.

A. To the maximum extent feasible, trails should be sited and designed to keep hikers, bicyclists and equestrians on the cleared pathways, to minimize impacts to sensitive habitat areas and environmental resources, and to avoid or minimize erosion impacts and conflicts with surrounding land uses.

B. As part of the trail implementation process, County Parks Department should evaluate a future trail's ability to accommodate multiple-use on proposed County trails. Potential modifications to the County's multiple-use trail policy should be considered on a case-by-case basis.

C. Maps depicting future trails should include a statement expressing "Trail routes shown as proposed trails are not open for public use until County acquires public access rights."

D. County Parks should monitor trails for potential impacts such as vandalism, impacts to archaeological/historical sites, intensity of use, erosion, etc., and when/where necessary, recommend temporary trail closures to alleviate or remedy the problem.

E. Trails should be sited so as to utilize existing roads and trails as much as possible, except where the trail may conflict with surrounding land uses and environmentally sensitive areas.

F. Trail width shall be consistent with County Park Department standards. Typical trail width ranges between 4-6 feet, except where intended trail uses and physical/ environmental constraints of the trail corridor deem it infeasible and/or inappropriate. Then a trail width less than 4-6 feet would be acceptable.

II. BIOLOGICAL CONCERNS

A. Trails should be sited to minimize damage to riparian areas while allowing some public access to these resources. Measures should include locating the majority of trail corridors outside riparian areas, while occasionally bringing trails into contact with streams for public enjoyment. All trail construction should minimize removal of riparian vegetation and utilize natural features and/or lateral fencing to discourage public access to sections of streams not directly accessed by trails.

B. To the greatest extent feasible, the number of creek crossings should be limited in order to protect stream/riparian resources.

C. Fences constructed along trail corridors should allow for wildlife movement, to the greatest extent feasible.

D. Both trail siting and maintenance should be conducted to minimize introduction and proliferation of exotic weedy plants.

III. AGRICULTURAL CONCERNS

A. Where appropriate (e.g., adjacent to existing agricultural operations, buildings, residences, etc.), the County should construct fencing between the trail and private land uses. County Parks shall determine on a case-by-case basis appropriate fencing design and type. The County should consider landowner input on fence design. To the greatest extent feasible, fencing should not hinder the natural movement and migration of animals and should be aesthetically pleasing.

B. Where trails bisect private land, locked gates should be installed at appropriate intervals to allow the landowner to cross the trail easement from one side of the property to the other.

C. Trails should be located away from cultivated agriculture and should be sited to avoid bisecting existing agricultural operations, to the greatest extent feasible.

IV. LAND USE COMPATIBILITY CONCERNS

A. Trails should be sited and designed to avoid significant environmental resources and to minimize user conflicts with surrounding land uses, to the maximum extent feasible. This may involve re-alignment of the trail corridor, signage, fencing, and/or installation of access control barriers in certain sensitive areas.
B. Where feasible, trails should be sited a minimum of 100 feet from existing structures, and utilize topography and vegetative barriers to buffer surrounding residences from potential privacy impacts.
C. Where feasible, trails should be sited along parcel boundaries in an effort to minimize land use conflicts.

V. ACCESS CONTROL

These trail guidelines are intended to protect surrounding land uses and environmentally sensitive areas, while providing a safe, enjoyable experience for the trail user. Many of the following access control guidelines are particularly relevant in siting proposed trails to avoid potential agricultural impacts.

A. Where appropriate, trailhead parking areas should be pursued by the County at logical points to provide parking areas for vehicles and turning areas for horse trailers without blocking emergency vehicle or residents' access to and from private lands. Such trailhead parking should be sited and designed to minimize disruption to existing neighborhoods.
B. Where appropriate, vehicle barriers (e.g., steel access gates) should be constructed at trailheads to prevent unauthorized motor vehicle access, while allowing hikers, bicyclists, equestrians, and authorized motor vehicles to access the trail. Internal access control barriers (i.e., any combination of steel gates, chain link or barbed wire fence may be necessary) should also be installed along trails at appropriate “choke points” (e.g., placement of barriers utilizing natural topography and/or trail user decision points) in order to keep trail users on the established trail route and prevent trespass and/or further entry into private property and/or environmentally sensitive areas.
C. Before the County permits public use of any acquired trail right-of-way, adequate fencing and other precautions should be installed to prevent vandalism to neighboring properties and appropriate trailheads should be acquired and constructed to provide for the public safety.
D. Appropriate trail signage should be placed at all access points, and along the trail corridor. Signs should state when entering/leaving public or private property, no trespassing, and to remain on the established trail route (especially where the trail easement crosses private land). Trailheads should be marked with low-key identification signs that also post regulations, prohibited uses, and trail user guidelines. Educational and trail etiquette signs should also be displayed at strategic locations along a trail corridor.

VI. ARCHAEOLOGICAL/HISTORIC CONCERNS

Archaeological and historic sites are non-renewable resources which are vulnerable to trail construction and use. The following guidelines are intended to aid in the siting of potential trail corridors in order to avoid disturbances to important resources.

A. Trails should be sited and designed to avoid impacts to significant cultural, archaeological, and historical resources to the maximum extent feasible. This may involve re-alignment of the trail corridor, signage, fencing, and/or installation of access control barriers in certain sensitive areas.
B. A Phase I archaeological survey may be required prior to implementing proposed trail corridors.

VII. GUIDELINES FOR TRAIL MAINTENANCE/CONSTRUCTION

A. Wherever possible, trails should be sited to avoid highly erosive soils and be constructed parallel to the slope contours with drainage directed off the trail to minimize soil erosion. Where the trail must go directly down the slope, a course of water bars (stone, wooden or jute meshing) should be imbedded perpendicular to the trail. This treatment should be implemented where necessary to minimize the effects of erosion.

B. The County should utilize the USFS standards for rural trail maintenance, as identified in the USFS Trail Handbook on a case-by-case basis.

C. County Public Works shall consult with County Park Department prior to issuing any encroachment permits along road shoulders with current or proposed trails.

D. County Park Department shall actively pursue removal of any unauthorized structures, fences, or other obstructions in dedicated easements, as set forth in Chapter 26 of the County Code.

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APPENDIX C: DOCUMENTED OCCURRENCES OF SPECIAL STATUS (CNPS 1B) PLANT SPECIES

Documented Occurrences of Special Status (CNPS 1B) Plant Species Within or Near the Mission Canyon Plan Area[61]

1. Santa Barbara honeysuckle (*Lonicera subspicata var. subspicata*). Observed on vacant parcel on Palomino Road south of 1116 Palomino Road. Coastal sage scrub habitat. M. Mooney February 2008 field visits for Mission Canyon Community Plan.

2. Nuttall's Scrub Oak (*Quercus dumosa*) Rattlesnake Canyon (mouth), n. of City of Santa Barbara (SBBG #100141; UCSB) Pollard 1957. Elevation 1100 ft.

3a. Nuttall's Scrub Oak (*Quercus dumosa*) Rattlesnake Canyon (Outside study area): Las Canoas Road [uphill from] on e/ side of Rancheros Tract (SBBG # 36685) Pollard 1959.

3b. Nuttall's Scrub Oak (*Quercus dumosa*) Rattlesnake Canyon: Skofield Property, Las Canoas Road (SBBG #58980) Holt 1940. Elevation 800 ft. Most likely within Skofield Park, owned by City of Santa Barbara.

4. Nuttall's Scrub Oak (*Quercus dumosa*) (Just E. of study area**):** Mountain Drive between Mission Canyon and Sheffield Reservoir (SBBG #58971, 58978) Holt 1940. Elevation 700 ft.

5. Nuttall's Scrub Oak (*Quercus dumosa*) Mission Canyon: Tunnel Road, Santa Barbara; Hoffman 1927 (SBBG # 59009, 1314). (Most likely corresponds to CNDDB Occ #33, "Mission Canyon"). Elevation 850 ft.

6. Nuttall's Scrub Oak (*Quercus dumosa*) Mission Canyon: Botanic Garden along Pritchett Trail, Mission Canyon; Smith 1943, 1944 (SBBG #88286, 1316). Elevation 850 ft. (Most likely corresponds to CNDDB Occ #33, "Mission Canyon").

7. Nuttall's Scrub Oak (*Quercus dumosa*) Mission Canyon: 1265 Tunnel Road east of SBBG. M. Mooney, September 12, 2000. Specimen confirmed by Steve Junak. Site visit for development project; located at sharp bend in the road, south of Holly Road. Co-occurs with *Cercocarpus betuloides*, *Heteromeles arbutifolia*. Elevation 850 ft.

8. Nuttall's Scrub Oak (*Quercus dumosa*) Mission Canyon: Observed on upper Palomino Road near 1159 Palomino. M. Mooney. February 2008 field visits for Mission Canyon Community Plan. Elevation 750 ft. Ridge between Lauro Canyon and Alamar Canyon.

9. Nuttall's Scrub Oak (*Quercus dumosa*) West of Mission Canyon: Calle Palo Colorado, 0.4 mi. N. of Lauro Canyon Road (UCSB). John Tucker #220, May 20, 1941. Elevation 900 ft. UCSB specimen. (Possibly extirpated?)

10. Nuttall's Scrub Oak (*Quercus dumosa*) Upper Mission Canyon: Observed on Spyglass Ridge between San Roque Creek and Lauro Canyon. M. Mooney. February 2008 field visits for Mission Canyon Community Plan. Elevation 1050 ft. (May be same as Tucker, 1941, UCD #45826).

Not mapped: Sycamore Canyon (E of study area): Near entrance to Parma Park, north of Stanwood Drive, M. Mooney, September 2001. Elevation 500 ft.

61 Based on field visits and herbarium specimens on file at Santa Barbara Botanic Garden and UC Santa Barbara.

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APPENDIX D: SPECIAL STATUS ANIMALS

Special Status Animals Occurring on the Goleta, Santa Barbara, Carpinteria, and White Ledge Peak USGS Quadrangles and Potential Occurrence in the Project Area[62]

Federal Status: Endangered (E), Threatened (T), Special Concern (SC), No status (-).
State Status: Endangered (E), Threatened (T), Species of Special Concern (SC)

Scientific Name/Common Name	*Status (Federal/ State)*	*Habitat and Description*	*Distribution in project area*
Federally or State Listed Threatened or Endangered Species			
Arroyo Toad *Bufo californicus*	E/SC	Dry sandy riparian areas, Inland arid regions.	Santa Ynez River; very low potential
Southern steelhead *Oncorhynchus mykiss irideus*	E/SC	South coast freshwater streams; Rattlesnake Creek throughout study area is designated critical habitat[63] and primarily high quality habitat[64]. Mission Creek is moderate to high quality habitat within the study area, extremely high outside (north of) study area.	Moderate potential due to presence of downstream barriers.
California Red-legged frog *Rana aurora draytonii*	T/SC	Deep freshwater ponds with overhanging vegetation	Cinquefoil Creek, (Montecito Creek); moderate potential.
Least Bell's vireo *Vireo bellii pusillus*	E/E	Willow-cottonwood riparian forest	Upper Santa Ynez River area; Casual fall migrants on the south coast; low potential.
Bank swallow *Riparia riparia*	-/T	Spring and fall transient; Vertical banks, sandy sea cliffs; no longer breeding in SB County	Historical, Santa Barbara, Goleta, Hendry's Beach; low potential.
Other Sensitive Species			
Two-striped garter snake *Thamnophis hammondii*	-/SC	Permanent freshwater streams from sea level to 7,000 feet.	Santa Ynez River, Blue Canyon; Rattlesnake Canyon; low –moderate potential.
Big free-tailed bat *Nyctinomops macrotis*	-/SC	Roosts in high cliffs, rocky outcrops in arid areas.	Low potential due to lack of habitat.
Southwestern pond turtle *Emys (=Clemmys) marmorata pallida*	-/SC	Deep permanent freshwater ponds.	San Roque Canyon. Moderate potential.
Cooper's hawk *Accipiter cooperii*	-/SC	Winter visitor; local summer resident in oak and riparian	Santa Ynez River; nesting reported in Mission Canyon;

62 Salt marsh and other coastal-dependent species such as western snowy plover, tidewater goby, and Belding's savannah sparrow are not included due to the lack of suitable habitat in the project area.

63 National Oceanic and Atmospheric Administration, 2005, FR, Friday Sept. 2, 2005, 52488.

64 Stoecker 2002.

Scientific Name/Common Name	*Status (Federal/ State)*	*Habitat and Description*	*Distribution in project area*
		habitats; breeds only very locally on the south coast	moderate potential.
Monarch butterfly *Danaus plexippus*	Local concern	Woodlands and forests near the coast.	Low potential due to distance from coast and high relative elevations.

Sources:
California Natural Diversity Database, March 1, 2008
Stoecker, Matt W. 2002. Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California." Prepared for Conception Coast Project, Santa Barbara, California. Available on line at www.conceptioncoast.org.
Lehman, Paul. 1994. *Birds of Santa Barbara County.*

Key to Status Categories:

Federal ESA Definitions (USFWS or NMFS)
Endangered (E): Any species which is in danger of extinction throughout all or a significant portion of its range
Threatened (T): Any species which is likely to become and endangered species within the foreseeable future throughout all or a significant portion of its range
Proposed: Any species of fish, wildlife, or plant that is proposed in the Federal Register to be listed under Section 4 of the Act.

California ESA
Endangered: "Endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. Any species determined by the commission as "endangered" on or before January 1, 1985, is an "endangered species."
Threatened: "Threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as "rare" on or before January 1, 1985, is a "threatened species."
Candidate: "Candidate species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list. (Fish and Game Code, 2068)
Species of Special Concern: means animals not listed under the federal Endangered Species Act or the California Endangered Species Act but nonetheless are declining at a rate that could result in listing or historically occurred in low numbers and known threats to their persistence currently exist.

APPENDIX E: SPECIAL STATUS PLANTS

Special Status Plants Occurring on the Goleta, Santa Barbara, Carpinteria, and White Ledge Peak USGS Quadrangles and Potential Occurrence in the Project Area

Federal Status: Endangered (E), Threatened (T), Special Concern (SC), No status (--).
State Status: Endangered (E), Threatened (T), Rare (R), Species of Special Concern (SC), No status (--)
California Native Plant Society Status Definitions:
List 1A: Plants Presumed Extinct in California
List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
List 2: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
List 3: Plants About Which More Information is Needed
List 4: Plants of Limited Distribution
SBBG LC = Santa Barbara Botanic Garden List of Species of Local Concern
Plants listed in bold occur in the Mission Canyon Plan Area.

Scientific Name/Common Name	***Status (Federal/State/California Native Plant Society)***	***Habitat and Description***	***Distribution in project area***
Federally or State Listed Threatened or Endangered Plant Species			
None[65]			
Other Sensitive Plant Species			
Arctostaphylos refugioensis Refugio manzanita	--/--/1B	County endemic. Chaparral, South side of Refugio Pass.	Low potential. Most localities are4 west of study area.
Aristida adscensionis Triple-awned grass	--/--/-- SBBG LC	Dry, open, rocky, south-facing slopes. March – May.	Historic occurrence in San Roque Canyon. Low-Moderate potential.
Atriplex coulteri Coulter's saltbush	--/--/1B	Bluffs, coastal bluff scrub	Low potential.
Atriplex serenana var. davidsonii Davidson's saltbush	--/--/1B	Coastal bluff scrub, coastal scrub/alkaline; annual herb; blooms April to November.	Hendry's Beach; Low potential.
Baccharis plummerae Plummer's Baccharis	--/--/4	Oak forest, chaparral, woodland, coastal scrub; shrub; blooms May to October.	Mission and Rattlesnake Canyon occurrences; Moderate –High potential.
Calochortus catalinae Catalina mariposa	--/--/4	Grasslands, woodlands, road banks.	Mission and San Roque Canyons. Moderate potential.
Calochortus weedii var. vestus late-flowered mariposa lily	--/--/1B SBBG LC	Dry, rocky places in chaparral; summits and foothills on So side of Santa Ynez Mtns.; blooms July to August.	Romero Canyon Rd.; historic occurrences in Mission and Rattlesnake Canyons. Low- Moderate potential.
Chorizanthe polygonoides var. *longispina* Long-spined spineflower	--/--/1B	Dry, clay soils in chaparral.	Juncal camp; Low potential.
Calystegia sepium ssp.	--/--/1A	Coastal marshes.	Lower De la Vina Street

65 Two species, Ventura marsh milk-vetch and salt marsh bird's beak, occur in salt marshes on the south coast. There is no salt marsh habitat in the project area.

Scientific Name/Common Name	***Status (Federal/State/California Native Plant Society)***	***Habitat and Description***	***Distribution in project area***
binghamiae Santa Barbara morning glory			location, type locality, destroyed 1900; Low potential.
Delphinium umbraculorum umbrella larkspur	--/--/1B SBBG LC	Blooms April to June.	Refugio Pass, Cachuma Saddle; Historic occurrences in San Roque Canyon. Moderate potential.
Fritillaria ojaiensis Ojai fritillary	--/--/1B	Southern Oak Woodland; perennial herb; blooms March to May.	N. slopes and summits of Santa Ynez Mtns; west of Ojai; Low potential.
Galium cliftonsmithii	--/--/4	Woodlands and chaparral.	Mission Canyon. High potential.
Horkelia cuneata ssp. puberula Mesa horkelia	FSC/--/1B	Sandy or gravelly soils in chaparral, cismontane woodland; perennial herb; blooms Feb. to Sept.	Subspecies difficult to distinguish from more common *H. c. ssp. cuneata.*
Lasthenia glabrata ssp. coulteri Coulter's goldfields	--/--/1B	Coastal salt marshes, playas, vernal pools.	Carpinteria salt marsh; Low potential.
Lonicera subspicata var. subspicata **Santa Barbara honeysuckle**	**--/--/1B** **SBBG LC**	**Coastal sage scrub, chaparral, openings in oak woodland; viny shrub; blooms May to August.**	**Mostly south coast; Moderate – High potential.**
Nolina cismontane Chaparral nolina	--/--/1B	Chaparral.	Lake Casitas; Low potential.
Quercus dumosa **Nuttall's scrub oak**	**--/--/1B**	**"Soft" chaparral; oak woodland, generally below 900 feet elevation.**	**Mission Canyon, Toro Canyon; High potential; Known locations in project area.**
Quercus X kinselae Kinsel's oak	--/--/-- SBBG LC	Local endemic; Deciduous hybrid between *Q. dumosa* and *Q. douglasii*.	Las Canoas and Mtn Drive occurrences; Mission and Rattlesnake Canyon. High potential.
Ribes amarum var. hoffmanii Bitter gooseberry	--/--/3	Woodlands in cool canyons.	Mission and Rattlesnake Creek occurrences. Moderate to high potential.
Sanicula hoffmanii Hoffman's sanicle	--/--/4 SBBG LC	Grasslands, moist woodlands, Skofield Park.	Reported hybrid near SBBG; Rattlesnake Canyon; Low potential
Senecio aphanactis Rayless ragwort	--/--/2 SBBG LC	Disturbed places in coastal sage scrub, chaparral; annual; blooms March to April.	Eastern Santa Ynez Mountains; Low potential.
Sidalcea malviflora ssp. californica Checker bloom	--/--/-- SBBG LC	Woodlands, blooms March to August.	Rattlesnake Canyon trail, Camino Cielo, Mission Canyon. Moderate potential.
Solanum xantii var. hoffmanii Hoffman's nightshade	--/--/4	Coastal sage scrub, openings in chaparral; shrub; blooms February to	N. and So. Slopes of Santa Ynez Mtns.; moderate potential.

Scientific Name/Common Name	*Status (Federal/State/California Native Plant Society)*	*Habitat and Description*	*Distribution in project area*
		July.	
Streptanthus campestris Southern jewel flower	--/--/1B	Steep rocky areas in chaparral, pinyon-juniper woodland.	Madulce Peak, Divide Peak, SY Mtns.; Low potential.
Thelypteris puberula var. sonorensis Sonoran maiden fern	--/--/2 SBBG LC	Wetland habitats along banks of creeks; fern.	Occurs mostly on the south side of the Santa Ynez Mountains; Mission Canyon; High potential.
Thermopsis macrophylla Santa Ynez false lupine	--/R/1B SBBG LC	Openings in chaparral habitats within Santa Ynez Mtns.; local endemic; suffrutescent perennial; blooms April to July.	Santa Ynez Mtns.; Low potential.

Sources:

Smith, Clifton F. 1998. *A Flora of the Santa Barbara Region, California*. Second Edition. Santa Barbara Botanic Garden & Capra Press.

Hickman, James C., ed. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press

California Native Plant Society. 2001. *Inventory of Rare and Endangered Plants of California.*

California Natural Diversity Database. Rarefind Report, Government Version , March 1, 2008.

Key to Status Categories:

Federal ESA Definitions (USFWS or NMFS)
Endangered: Any species which is in danger of extinction throughout all or a significant portion of its range
Threatened: Any species which is likely to become and endangered species within the foreseeable future throughout all or a significant portion of its range
Proposed: Any species of fish, wildlife, or plant that is proposed in the Federal Register to be listed under Section 4 of the Act.
Species of Concern: species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking.

California ESA
Endangered: "Endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. Any species determined by the commission as “endangered" on or before January 1, 1985, is an "endangered species."
Threatened: "Threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as "rare" on or before January 1, 1985, is a "threatened species."
Candidate: "Candidate species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list. (Fish and Game Code, 2068)
Rare: Listed as rate under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.

California Native Plant Society (CNPS)
List 1A: Plants *presumed Extinct* in CA List 1B: *Rare, Threatened, or Endangered in CA* and elsewhere List 2: Plants Rare, Threatened, or Endangered in CA; more common elsewhere List 3: Need more info List 4: Plants of Limited Distribution; Watch List

SBBG LC = Santa Barbara Botanic Garden, 2003. Rare Plants of Santa Barbara County. Central Coast Center for Plant Conservation 1212 Mission Canyon Rd. Santa Barbara. Available online at www.sbbg,org.

APPENDIX F: NON-INVASIVE, FIRE RESISTANT PLANT SPECIES

Homeowners can reduce the chances of losing their home to wildfire and prevent the spread of wildfire through proper landscape design and maintenance principles. Applying these principles can help you save resources, create a beautiful landscape and be environmentally responsible. Firewise landscaping consists of careful planting of fire-resistant and fire-retardant plants. No plant is fire proof; given enough heat, all vegetation will burn. However, plants differ in how fast they burn and their ability to survive fire. Fire-retardant plants are those which are less flammable than others and fire-resistant plants will regenerate, despite burning.

A firewise garden is divided into four different plant zones that will reduce the spread of wildfire to the home. Each type of vegetation is planted with a specific purpose in protecting your home from wildfire. Firewise landscapes include water-efficient principles that incorporate low-water using plants, efficient irrigation, mulching, and reduced lawn areas. Plants are grouped together according to similar water and sun requirements. Efficient irrigation includes maintaining up-to-date overhead sprinklers, using drip irrigation where appropriate, and modifying the watering schedule as the weather changes.

Zone 1 (0-30 feet from structure): This zone, lying closest to the home, offers protection from intense flames and sparks. All plants closest to the home should be highly fire resistant.

Zone 2 (30 to 50 feet from structure): This is the "greenbelt" zone. Low-growing, low-fuel ground covers and succulents resistant to fire comprise the plants in this zone. Fleshy succulents store water in their tissue and thus resist fire.

Zone 3 (50 to 70 feet from structure): Moving farther away from the home, this area consists of native and Mediterranean plants that are low-growing and slow burning. The low profiles and the limited foliage of these plants can retard the flow of fire.

Zone 4 (70 to 100 feet from structure): This zone consists of native vegetation which has been thinned to reduce fuel volume and create a transitional area between the natives and the plant around your home. In a fire, Zone Four will burn, but since it has less fuel, it will slow the fire. Once established, these plants need no irrigation, as they are adaptive to survive on only rainfall.

The following plant list per zone is provided courtesy of the Santa Barbara City Fire Department, firescape demonstration garden.

FIRESCAPE ZONE 1 (0 to 30 feet from structure)

BOTANICAL NAME	COMMON NAME
Achillea 'Paprika'	Yarrow
Aeonium 'Alice Keck Park'	No Common Name
Aeonium 'Zwartkop'	No Common Name
Agave attenuata	Foxtail Agave
Agave vilmoriniana	Octopus Agave
Agapanthus (dwarf white)	Lily of the Nile
Aloe arborescens	Torch Aloe
Aloe bainsii	Tree Aloe
Aloe striata	Coral Aloe
Alstroemeria 'Salmon'	Peruvian Lily
Arbutus 'Marina'	No Common Name
Asparagus 'Myers'	Myers Asparagus Fern
Asteriscus 'Gold Coin'	Gold Coin Daisy
Bulbine frutescens	No Common Name
Camellia sasanqua 'Cleopatra'	Camellia
Chondropetalum tectorum	Cape Rush
Correa 'Ivory Bells'	Australian Fuchsia
Cotoneaster buxifolia	Cotoneaster
Crassula argentea	Jade Plant
Dasylirion longissima	Mexican Grass Tree
Dietes iridioides	Fortnight Lily
Echevaria imbricata	Hen and Chicks
Euryops pectinatus viridis	Bush Daisy
Geranium biokova	Cranesbill
Hemerocallis hybrida (yellow variety)	Daylily
Hesperaloe parviflora	Red Yucca
Heuchera maxima	Island Alum Root
Jasminum lerattii	Shinyleaf Jasmine
Lomandra longifolia	No Common Name
Mahonia repens	Creeping Mahonia
Nerium oleander 'Petite Salmon	Dwarf Oleander
Phormium 'Dark Delight'	New Zealand Flax
Phormium 'Jack Spratt'	New Zealand Flax
Ribes aureum	Golden Currant
Ribes viburnifolium	Catalina Perfume
Salvia spathacea	Hummingbird Sage
Sedum rubrotinctum	Pork and Beans
Senecio mandraliscae	No Common Name

FIRESCAPE ZONE 2 (30 to 50 feet from structure)

BOTANICAL NAME	COMMON NAME
Agapanthus 'Rancho White'	Lily of the Nile
Arctotis acaulis 'Big Magenta'	African Daisy
Carissa grandiflora 'Fancy'	Natal Plum
Centranthus ruber	Jupiter's Beard
Chitalpa tashkentiensis	NCN
Cistus skanbergii	Rockrose
Convolvulus mauritanicus	Ground Morning Glory
Echium fastuosum	Pride of Madeira
Erigeron karvinskianus	Santa Barbara Daisy
Helianthemum 'Wisely Pink'	Sunrose
Heuchera maxima	Island Alum Root
Iris douglasiana	Douglas Iris
Juniperus procumbens 'Nana'	Chinese Garden Juniper
Liriope gigantea	Lily Turf
Mimulus aurantiacus	Monkeyflower
Mimulus 'Sam' (pale yellow)	Monkeyflower
Neomarica caerulea	Walking Iris
Nepeta faassennii	Catmint
Nerium oleander (white)	Oleander
Oenothera berlandieri	Mexican Evening Primrose
Penstemon 'Burgundy Brew'	Penstemon
Perovskia 'Blue Spires'	Russian Sage
Plecostachys serpyllifolia	NCN
Polypodium californicum	California Polypody Fern
Polystichum munitum	Western Sword Fern
Rhamnus 'Mound San Bruno'	Coffeeberry
Rhaphiolepis indica 'Ballerina'	India Hawthorn
Rosa 'Floral Carpet' pink	Rose
Salvia chamaedryoides	Germander Sage
Salvia clevelandii	Cleveland Sage
Salvia 'Johnson Blue'	Johnson Blue Sage
Sisyrinchium bellum	Blue-Eyed Grass
Stachys bullata	Hedge Nettle
Tulbaghia violacea 'Silver Lace'	Society Garlic
Verbena lilacina 'De la Mina'	Cedros Island Verbena

FIRESCAPE ZONE 3 (50 to 70 feet from structure)

BOTANICAL NAME	COMMON NAME
Anemone hybrida (white)	Windflower
Arctostaphylos densiflorus 'Howard McMinn'	McMinn Manzanita
Ceratostigma plumbaginoides	Plumbago
Cercis occidentalis	Western Redbud
Coleonema pulchellum 'Compact Form'	Breath of Heaven
Coreopsis auriculata	Coreopsis
Cotoneaster salicifolia	Willowleaf Cotoneaster
Dianella caerulea	Flax Lily
Dichondra argentea	NCN
Gazania 'Copper King'	Gazania
Geranium incanum	Cranesbill
Geranium sanguineum	Bloody Cranesbill
Helichrysum 'Limelight'	Licorice Plant
Hunnemannia fumarifolia	Mexican Tulip Poppy
Lantana montevidensis 'White'	Lantana
Lavandula 'Provence'	Lavender
Leonotis leonoris	Lion'sTail
Nepeta 'Six Hills Giant'	Catmint
Phlomis fruticosa 'Grande Verde'	Jerusalem Sage
Phormium 'Yellow Wave'	New Zealand Flax
Plectranthus argentatus	NCN
Rhaphiolepis 'Clara'	India Hawthorn
Ribes sanguineum	Pink Winter Currant
Ruscus hypoglossus	Butcher's Broom
Salvia chiapensis	Chiapas Sage
Salvia leucantha "Midnight'	Mexican Bush Sage
Salvia mellifera	Black Sage
Sphaeralcea ambigua	Globe Mallow
Tagetes lemmonii	Mexican Marigold
Teucrium chamaedryoides 'Prostratum'	Germander

FIRESCAPE ZONE 4 (70 to 100 feet from structure)

BOTANICAL NAME	COMMON NAME
Arctostaphylos 'Dr. Hurd'	Manzanita
Arctostaphylos 'Pacific Mist'	Manzanita
Berberis nevenii	Nevin Barberry
Ceanothus 'Concha'	Mountain Lilac
Ceanothus 'Ray Hartman'	Mountain Lilac
Ceanothus 'Snowball'	Mountain Lilac
Dendromecon harfordii	Island Bush Poppy
Encelia californica	California Bush Sunflower
Eriogonum giganteum	St. Catherine's Lace
Fremontedendron californica	Flannelbush
Galvesia speciosa	Island Bush Snapdragon
Garrya elliptica	Silktassel Bush
Heteromeles arbutifolia	Toyon
Isomeris arborea	Bladderpod
Keckiella cordifolia	Honeysuckle Penstemon
Lavatera assurgentiflora	Tree Mallow
Malacothamnus fasciculatus	Bush Mallow
Myrica californica	Pacific Wax Myrtle
Rhus integrifolia	Lemonade Berry
Romneya coulteri	Matilija Poppy
Rosa californica	Wild Rose
Salvia apiana	White Sage
Salvia mellifera	Black Sage

Undesirable Plant List

Certain plants are undesirable in the landscape due to characteristics that make they highly flammable. These characteristics can be either physical or chemical. Physical properties would include large amounts of dead material retained within the plant, rough or peeling back, and the production of profuse amounts of litter. Chemical properties include the presence of volatile substances such as oils, resins, wax and pitch. Certain native plants are notorious as species containing these volatile substances.

Plants with these characteristics should not be planted in Mission Canyon. The following list of plants shall be avoided in landscape plans for new development:

Undesirable Plant Species

Acacia species
Casuarina species – Beefwood
Cortadera species – Pampas Grass
Cupressus species – Cypress
Eucalyptus species – Eucalyptus
Juniperus species – Juniper (except species which grow less than 1 foot)
Melaleuca species
Olneya testota – Iron wood
Pennisetum – Fountain Grass
Pinus species – Pine
Schinus molle – California pepper tree

Native Alternatives to Exotics

This table lists common weedy exotic species that have been planted in the Santa Barbara area. Several plants native to California are suggested as better alternatives for the designed landscape. The size range of native trees is provided to show how large the species may grow at maturity.

Non-Native Species	**Native Alternatives**
TREES	
Green wattle (*Acacia mearnsii = A. decurrens ssp. mollis*)	Oaks (*Quercus* species) (60-100 ft) California bay (*Umbellularia californica*) (100 ft)
Blue gum (*Eucalyptus globulus*)	Western sycamore (*Platanus racemosa*) (40-100 ft) Oaks (*Quercus engelmannii, Q. douglasii*) (50 ft) California bay (*Umbellularia californica*) (100 ft)
London plane tree (*Platanus X acerifolia*)	Bigleaf maple (*Acer macrophyllum*) (40-100 ft) White alder (*Alnus rhombifolia*) (50-75 ft) Western sycamore (*Platanus racemosa*) (40-100 ft) Fremont cottonwood (*Populus fremontii*) (60 ft)
Peruvian Pepper (*Schinus molle*)	Desert willow (*Chilopsis linearis*) (6-30 ft) Toyon (*Heteromeles arbutifolia*)—can become a multi-trunked tree Oak species (*Quercus agrifolia ,Q. engelmannii, Q. lobata*) (100 ft) California bay (*Umbellularia californica*) (100 ft)
SHRUBS	
GoldenWattle (*Acacia longifolia = A. latifolia)*	Quail brush (*Atriplex lentiformis breweri*) Mule fat (*Baccharis salicifolia* [syn. B. *glutinosa*]) Bush sunflower (*Encelia californica*) Bladderpod (*Isomeris arborea*) Bush lupine (*Lupinus chamissonis, L. arboreus*) Arroyo willow (*Salix lasiolepis*)
Spanish broom (*Spartium junceum*) and French broom (*Genista monspessulana*)	Bladderpod (*Isomeris arborea*) Bush poppy (*Dendromecon rigida, D. harfordii*) Bush lupine (*Lupinus arboreus, L. albifrons*)

Non-Native Species	Native Alternatives
Myoporum (*Myoporum laetum*)	Toyon (*Heteromeles arbutifolia*) California wax-myrtle (*Myrica californica*) Holly-leaved cherry (*Prunus ilicifolia*) Coffeeberry (*Rhamnus californica*) Lemonade berry (*Rhus integrifolia*)
Tree tobacco (*Nicotiana glauca*)	Bush poppy (*Dendromecon rigida*, *D. harfordii*) Bladderpod (*Isomeris arborea*)
Victorian box (*Pittosporum undulatum*)	Toyon (*Heteromeles arbutifolia*) Laurel sumac (*Malosma laurina*) California wax myrtle (*Myrica californica*) Holly-leaved cherry (*Prunus ilicifolia*) Lemonade berry (*Rhus integrifolia*) Sugar bush (*Rhus ovata*) California bay (*Umbellularia californica*)
GRASSES	
Fountain grass (*Pennisetum setaceum*)	Purple three-awn (*Aristida purpurea*) Silver beardgrass (*Bothriochloa barbinodis*) San Diego sedge (*Carex spissa*) California fescue (*Festuca californica*) Deer Grass (*Muhlenbergia rigens*) Alkali sacaton (*Sporobolus airoide*s)
Pampas grass (*Cortaderia selloana* and *C. jubata*)	Silver beardgrass (*Bothriochloa barbinodis*) Spiny rush (*Juncus acutus* ssp. *leopoldii*) Giant wild rye (*Leymus condensatus*) Leymus condensatus ‘Canyon Prince’, a blue-leaved form introduced by SBBG Deer Grass (*Muhlenbergia rigens*) Parry’s nolina (*Nolina parryi*)

Plant list provided by The Santa Barbara Botanic Garden.

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APPENDIX G: GUIDELINES FOR SALMONID PASSAGE AT STREAM CROSSINGS

National Marine Fisheries Service
Southwest Region

GUIDELINES FOR SALMONID PASSAGE AT STREAM CROSSINGS

1.0 INTRODUCTION

This document provides guidelines for design of stream crossings to aid upstream and downstream passage of migrating salmonids. It is intended to facilitate the design of a new generation of stream crossings, and assist the recovery of threatened and endangered salmon species. These guidelines are offered by the National Marine Fisheries Service, Southwest Region (NMFS-SWR), as a result of its responsibility to prescribe fishways under the Endangered Species Act, the Magnuson-Stevens Act, the Federal Power Act, and the Fish and Wildlife Coordination Act. The guidelines apply to all public and private roads, trails, and railroads within the range of anadromous salmonids in California.

Stream crossing design specifications are based on the previous works of other resource agencies along the U.S. West Coast. They embody the best information on this subject at the time of distribution. Meanwhile, there is mounting evidence that impassable road crossings are taking a more significant toll on endangered and threatened fish than previously thought. New studies are revealing evidence of the pervasive nature of the problem, as well as potential solutions. Therefore, this document is appropriate for use until revised, based on additional scientific information, as it becomes available.

The guidelines are general in nature. There may be cases where site constraints or unusual circumstances dictate a modification or waiver of one or more of these design elements. Conversely, where there is an opportunity to protect salmonids, additional site-specific criteria may be appropriate. Variances will be considered by the NMFS on a project-by-project basis. When variances from the technical guidelines are proposed, the applicant must state the specific nature of the proposed variance, along with sufficient biological and/or hydrologic rationale to support appropriate alternatives. Understanding the spatial significance of a stream crossing in relation to salmonid habitat within a watershed will be an important consideration in variance decisions.

Protocols for fish-barrier assessment and site prioritization are under development by the California Department of Fish and Game (CDFG). These will be available in updated versions of the *California Salmonid Stream Habitat Restoration Manual*. Most streams in California also support important populations of non-salmonid fishes, amphibians, reptiles, macroinvertebrates, insects, and other organisms important to the aquatic food web. Some of these may also be threatened or endangered species and require "ecological connectivity" that dictate other design criteria not covered in this document. Therefore, the project applicant should check with the local Fish and Game office, the U.S. Fish and Wildlife Service (USFWS), and/or tribal biologists to ensure other species are fully considered.

The California Department of Transportation Highway Design Manual defines a culvert as "A closed conduit which allows water to pass under a highway," and in general, has a single span of less than 20 feet or multiple spans totaling less than 20 feet. For the purpose of fish passage, the distinction between bridge, culvert or low water crossing is not as important as the effect the structure has on the form and function of the stream. To this end, these criteria conceptually apply to bridges and low water crossings, as well as culverts.

2.0 PREFERRED ALTERNATIVES AND CROSSINGS

The following alternatives and structure types should be considered in order of preference:

1. *Nothing* - Road realignment to avoid crossing the stream
2. *Bridge* - spanning the stream to allow for long term dynamic channel stabilty
3. *Streambed simulation strategies* - bottomless arch, embedded culvert design, or ford
4. *Non-embedded culvert* - this is often referred to as a hydraulic design, associated with more traditional culvert design approaches limited to low slopes for fish passage
5. *Baffled culvert, or structure designed with a fishway* - for steeper slopes

If a segment of stream channel where a crossing is proposed is in an active salmonid spawning area then only full span bridges or streambed simulations are acceptable.

3.0 DESIGNING NEW AND REPLACEMENT CULVERTS

The guidelines below are adapted from culvert design criteria published by many federal and state organizations including the California Department of Fish and Game (CDFG, 2001). It is intended to apply to new and replacement culverts where fish passage is legally mandated or important.

3.1 Active Channel Design Method

The Active Channel Design method is a simplified design that is intended to size a culvert sufficiently large and embedded deep enough into the channel to allow the natural movement of bedload and formation of a stable bed inside the culvert. Determination of the high and low fish

passage design flows, water velocity, and water depth is not required for this method since the stream hydraulic characteristics within the culvert are intended to mimic the stream conditions upstream and downstream of the crossing. This design method is usually not suitable for stream channels that are greater than 3% in natural slope or for culvert lengths greater than 100 feet. Structures for this design method are typical round, oval, or squashed pipes made of metal or reinforced concrete.

- Culvert Width - The minimum culvert width shall be equal to, or greater than, 1.5 times the active channel width.
- Culvert Slope - The culvert shall be placed level (0% slope).
- Embedment - The bottom of the culvert shall be buried into the streambed not less than 20% of the culvert height at the outlet and not more than 40% of the culvert height at the inlet.

3.2 Stream Simulation Design Method

The Stream Simulation Design method is a design process that is intended to mimic the natural stream processes within a culvert. Fish passage, sediment transport, flood and debris conveyance within the culvert are intended to function as they would in a natural channel. Determination of the high and low fish passage design flows, water velocity, and water depth is not required for this option since the stream hydraulic characteristics within the culvert are designed to mimic the stream conditions upstream and downstream of the crossing. The structures for this design method are typically open bottomed arches or boxes but could have buried floors in some cases. These culverts contain a streambed mixture that is similar to the adjacent stream channel. Stream simulation culverts require a greater level of information on hydrology and geomorphology (topography of the stream channel) and a higher level of engineering expertise than the Active Channel Design method.

- Culvert Width - The minimum culvert width shall be equal to, or greater than, the bankfull channel width. The minimum culvert width shall not be less than 6 feet.
- Culvert Slope - The culvert slope shall approximate the slope of the stream through the reach in which it is being placed. The maximum slope shall not exceed 6%.
- Embedment - The bottom of the culvert shall be buried into the streambed not less than 30% and not more than 50% of the culvert height. For bottomless culverts the footings or foundation should be designed for the largest anticipated scour depth.

3.3 Hydraulic Design Method

The Hydraulic Design method is a design process that matches the hydraulic performance of a culvert with the swimming abilities of a target species and age class of fish. This method targets distinct species of fish and therefore does not account for ecosystem requirements of non-target species. There are significant errors associated with estimation of hydrology and fish swimming speeds that are resolved by making conservative assumptions in the design process. Determination of the high and low fish passage design flows, water velocity, and water depth are required for this option.

The Hydraulic Design method requires hydrologic data analysis, open channel flow hydraulic calculations and information on the swimming ability and behavior of the target group of fish. This design method can be applied to the design of new and replacement culverts and can be used to evaluate the effectiveness of retrofits of existing culverts.

- $ Culvert Width - The minimum culvert width shall be 3 feet.
- $ Culvert Slope - The culvert slope shall not exceed the slope of the stream through the reach in which it is being placed. If embedment of the culvert is not possible, the maximum slope shall not exceed 0.5%.
- $ Embedment - Where physically possible, the bottom of the culvert shall be buried into the streambed a minimum of 20% of the height of the culvert below the elevation of the tailwater control point downstream of the culvert. The minimum embedment should be at least 1 foot. Where physical conditions preclude embedment, the hydraulic drop at the outlet of a culvert shall not exceed the limits specified above.

Hydrology for Fish Passage under the Hydraulic Design Method

- $ **High Fish Passage Design Flow** - The high design flow for adult fish passage is used to determine the maximum water velocity within the culvert. Where flow duration data is available or can be synthesized the high fish passage design flow for adult salmonids should be the 1% annual exceedance. If flow duration data or methods necessary to compute them are not available then 50% of the 2 year flood recurrence interval flow may be used as an alternative. Another alternative is to use the discharge occupied by the cross-sectional area of the active stream channel. This requires detailed cross section information for the stream reach and hydraulic modeling. For upstream juvenile salmonid passage the high design flow should be the 10% annual exceedance flow.
- $ **Low Fish Passage Design Flow** - The low design flow for fish passage is used to determine the minimum depth of water within a culvert. Where flow duration data is available or can be synthesized the 50% annual exceedance flow or 3 cfs, whichever is greater, should be used for adults and the 95% annual exceedance flow or 1 cfs, whichever is greater, should be used for juveniles.

Maximum Average Water Velocities in the Culvert at the High Fish Passage Design Flow - Average velocity refers to the calculated average of velocity within the barrel of the culvert. Juveniles require 1 fps or less for upstream passage for any length culvert at their High Fish Passage Design Flow. For adult salmonids use the following table to determine the maximum velocity allowed.

Culvert Length (ft)	Velocity (fps) - Adult Salmonids
<60	6
60-100	5
100-200	4
200-300	3
>300	2

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Minimum Water Depth at the Low Fish Passage Design Flow - For non-embedded culverts, minimum water depth shall be twelve 12 inches for adult steelhead and salmon, and six 6 inches for juvenile salmon.

Juvenile Upstream Passage - Hydraulic design for juvenile upstream passage should based on representative flows in which juveniles typically migrate. Recent research (NMFS, 2001, in progress) indicates that providing for juvenile salmon up to the 10% annual exceedance flow will cover the majority of flows in which juveniles have been observed moving upstream. The maximum average water velocity at this flow should not exceed 1 fps. In some cases over short distances 2 fps may be allowed.

Maximum Hydraulic Drop - Hydraulic drops between the water surface in the culvert and the water surface in the adjacent channel should be avoided for all cases. This includes the culvert inlet and outlet. Where a hydraulic drop is unavoidable, its magnitude should be evaluated for both high design flow and low design flow and shall not exceed 1 foot for adults or 6 inches for juveniles. If a hydraulic drop occurs at the culvert outlet, a jump pool of at least 2 feet in depth should be provided.

3.4 Structural Design and Flood Capacity

All culvert stream crossings, regardless of the design option used, shall be designed to withstand the 100-year peak flood flow without structural damage to the crossing. The analysis of the structural integrity of the crossing shall take into consideration the debris loading likely to be encountered during flooding. Stream crossings or culverts located in areas where there is significant risk of inlet plugging by flood borne debris should be designed to pass the 100-year peak flood without exceeding the top of the culvert inlet (Headwater-to-Diameter Ratio less than one). This is to ensure a low risk of channel degradation, stream diversion, and failure over the life span of the crossing. Hydraulic capacity must be compensated for expected deposition in the culvert bottom.

3.5 Other Hydraulic Considerations

Besides the upper and lower flow limit, other hydraulic effects need to be considered, particularly when installing a culvert:

- Water surface elevations in the stream reach must exhibit gradual flow transitions, both upstream and downstream. Abrupt changes in water surface and velocities must be avoided, with no hydraulic jumps, turbulence, or drawdown at the entrance. A continuous low flow channel must be maintained throughout the entire stream reach.
- In addition, especially in retrofits, hydraulic controls may be necessary to provide resting pools, concentrate low flows, prevent erosion of stream bed or banks, and allow passage of bedload material.

- Culverts and other structures should be aligned with the stream, with no abrupt changes in flow direction upstream or downstream of the crossing. This can often be accommodated by changes in road alignment or slight elongation of the culvert. Where elongation would be excessive, this must be weighed against better crossing alignment and/or modified transition sections upstream and downstream of the crossing. In crossings that are unusually long compared to streambed width, natural sinuosity of the stream will be lost and sediment transport problems may occur even if the slopes remain constant. Such problems should be anticipated and mitigated in the project design.

4.0 RETROFITTING CULVERTS

For future planning and budgeting at the state and local government levels, redesign and replacement of substandard stream crossings will contribute substantially to the recovery of salmon stocks throughout the state. Unfortunately, current practices do little to address the problem: road crossing corrections are usually made by some modest level of incremental, low cost "improvement" rather than re-design and replacement. These usually involve bank or structure stabilization work, but frequently fail to address fish passage. Furthermore, bank stabilization using hard point techniques frequently denigrates the habitat quality and natural features of a stream. Nevertheless, many existing stream crossings can be made better for fish passage by cost-effective means. The extent of the needed fish passage improvement work depends on the severity of fisheries impacts, the remaining life of the structure, and the status of salmonid stocks in a particular stream or watershed.

For work at any stream crossing, site constraints need to be taken into consideration when selecting options. Some typical site constraints are ease of structure maintenance, construction windows, site access, equipment, and material needs and availability. The decision to replace or improve a crossing should fully consider actions that will result in the greatest net benefit for fish passage. If a particular stream crossing causes substantial fish passage problems which hinder the conservation and recovery of salmon in a watershed, complete redesign and replacement is warranted. *Consolidation and/or decommissioning of roads can sometimes be the most cost-effective option.* Consultations with NMFS or CDFG biologists can help in selecting priorities and alternatives.

Where existing culverts are being modified or retrofitted to improve fish passage, the Hydraulic Design method criteria should be the design objective for the improvements. However, it is acknowledged that the conditions that cause an existing culvert to impair fish passage may also limit the remedies for fish passage improvement. Therefore, short of culvert replacement, the Hydraulic Design method criteria should be the goal for improvement but not necessarily the required design threshold.

Fish passage through existing non-embedded culverts may be improved through the use of gradient control weirs upstream or downstream of the culvert, interior baffles or weirs, or in some cases, fish ladders. However, these measures are not a substituted for good fish passage design

for new or replacement culverts. The following guidelines should be used:

- **Hydraulic Controls** - Hydraulic controls in the channel upstream and/or downstream of a culvert can be used to provide a continuous low flow path through culvert and stream reach. They can be used to facilitate fish passage by establishing the following desirable conditions: Control depth and water velocity within culvert, concentrate low flows, provide resting pools upstream and downstream of culvert and prevent erosion of bed and banks. A change in water surface elevation of up to one foot is acceptable for adult passage conditions, provided water depth and velocity in the culvert meet other hydraulic guidelines. A jump pool must be provided that is *at least* 1.5 times the jump height, or a minimum of two feet deep, whichever is deeper.

- **Baffles** - Baffles may provide incremental fish passage improvement in culverts with excess hydraulic capacity that can not be made passable by other means. Baffles may increase clogging and debris accumulation within the culvert and require special design considerations specific to the baffle type. Culverts that are too long or too high in gradient require resting pools, or other forms of velocity refuge spaced at increments along the culvert length.

- **Fishways** - Fishways are generally not recommended, but may be useful for some situations where excessive drops occur at the culvert outlet. Fishways require specialized site-specific design for each installation. A NMFS or CDFG fish passage specialist should be consulted.

- **Multiple Culverts** - Retrofitting multiple barrel culverts with baffles in one of the barrels may be sufficient as long as low flow channel continuity is maintained and the culvert is reachable by fish at low stream flow.

5.0 OTHER GENERAL RECOMMENDATIONS

Trash racks and livestock fences should not be used near the culvert inlet. Accumulated debris may lead to severely restricted fish passage, and potential injuries to fish. Where fencing cannot be avoided, it should be removed during adult salmon upstream migration periods. Otherwise, a minimum of 9 inches clear spacing should be provided between pickets, up to the high flow water surface. Timely clearing of debris is also important, even if flow is getting around the fencing. Cattle fences that rise with increasing flow are highly recommended.

Natural or artificial supplemental lighting should be provided in new and replacement culverts that are over 150 feet in length. Where supplemental lighting is required the spacing between light sources shall not exceed 75 feet.

The NMFS and the CDFG set in-stream work windows in each watershed. Work in the active stream channel should be avoided during the times of year salmonids are present. Temporary crossings, placed in salmonid streams for water diversion during construction activities, should meet all of the guidelines in this document. However, if it can be shown that the location of a

temporary crossing in the stream network is not a fish passage concern at the time of the project, then the construction activity only needs to minimize erosion, sediment delivery, and impact to surrounding riparian vegetation.

Culverts shall only be installed in a de-watered site, with a sediment control and flow routing plan acceptable to NMFS or CDFG. The work area shall be fully restored upon completion of construction with a mix of native, locally adapted, riparian vegetation. Use of species that grow extensive root networks quickly should be emphasized. Sterile, non-native hybrids may be used for erosion control in the short term if planted in conjunction with native species.

Construction disturbance to the area should be minimized and the activity should not adversely impact fish migration or spawning. If salmon are likely to be present, fish clearing or salvage operations should be conducted by qualified personnel prior to construction. If these fish are listed as threatened or endangered under the federal or state Endangered Species Act, consult directly with NMFS and CDFG biologists to gain authorization for these activities. Care should be taken to ensure fish are not chased up under banks or logs that will be removed or dislocated by construction. Return any stranded fish to a suitable location in a nearby live stream by a method that does not require handling of the fish.

If pumps are used to temporarily divert a stream to facilitate construction, an acceptable fish screen must be used to prevent entrainment or impingement of small fish. Contact NMFS or CDFG hydraulic engineering staff for appropriate fish screen specifications. Unacceptable wastewater associated with project activities shall be disposed of off-site in a location that will not drain directly into any stream channel.

6.0 POST-CONSTRUCTION EVALUATION AND LONG TERM MAINTENANCE AND ASSESSMENT

Post-construction evaluation is important to assure the intended results are accomplished, and that mistakes are not repeated elsewhere. There are three parts to this evaluation:

1) Verify the culvert is installed in accordance with proper design and construction procedures.
2) Measure hydraulic conditions to assure that the stream meets these guidelines.
3) Perform biological assessment to confirm the hydraulic conditions are resulting in successful passage.

NMFS and/or CDFG technical staff may assist in developing an evaluation plan to fit site-specific conditions and species. The goal is to generate feedback about which techniques are working well, and which require modification in the future. These evaluations are not intended to cause extensive retrofits of any given project unless the as-built installation does not reasonably conform to the design guidelines, or an obvious fish passage problem continues to exist. Over time, the

NMFS anticipates that the second and third elements of these evaluations will be abbreviated as clear trends in the data emerge.

Any physical structure will continue to serve its intended use only if it is properly maintained. During the storm season, timely inspection and removal of debris is necessary for culverts to continue to move water, fish, sediment, and debris. In addition, all culverts should be inspected at least once annually to assure proper functioning. Summary reports should be completed annually for each crossing evaluated. An annual report should be compiled for all stream crossings and submitted to the resource agencies. A less frequent reporting schedule may be agreed upon for proven stream crossings. Any stream crossing failures or deficiencies discovered should be reported in the annual cycle and corrected promptly.

8.0 DEFINITIONS

These definitions apply to terms used in this document. Meanings may differ when used in another context and are not legal unless otherwise noted. Definitions were shortened, paraphrased or adapted to fit regional conditions and for ease of understanding.

Active Channel: A waterway of perceptible extent that periodically or continuously contains moving water. It has definite bed and banks which serve to confine the water and includes stream channels, secondary channels, and braided channels. It is often determined by the "ordinary high water mark" which means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Bankfull: The point on a streambank at which overflow into the floodplain begins. The floodplain is a relatively flat area adjacent to the channel constructed by the stream and overflowed by the stream at a recurrence interval of about one to two years. If the floodplain is absent or poorly defined, other indicators may identify bankfull. These include the height of depositional features, a change in vegetation, slope or topographic breaks along the bank, a change in the particle size of bank material, undercuts in the bank, and stain lines or the lower extent of lichens and moss on boulders. Field determination of bankfull should be calibrated to known stream flows or to regional relationships between bankfull flow and watershed drainage area.

Bedload: Sand, silt, and gravel, or soil and rock debris rolled along the bottom of a stream by the moving water. The particles of this material have a density or grain size which prevents movement far above or for a long distance out of contact with the streambed under natural flow conditions.

Fish Passage: The ability of both adult and juvenile fish to move both up and down stream.

Flood Frequency: The frequency with which a flood of a given discharge has the probability of recurring. For example, a "100-year" frequency flood refers to a flood discharge of a magnitude

likely to occur on the average of once every 100 years or, more properly, has a one-percent chance of being exceeded in any year. Although calculation of possible recurrence is often based on historical records, there is no guarantee that a "100-year" flood will occur at all within the 100-year period or that it will not recur several times.

Flood Prone Zone: Spatially, this area generally corresponds to the modern floodplain, but can also include river terraces subject to significant bank erosion. For delineation, see definition for floodplain.

Floodplain: The area adjacent to the stream constructed by the river in the present climate and inundated during periods of high flow.

Flow Duration Curve: A cumulative frequency curve that shows the percentage of time that specified discharges are equaled or exceeded. Flow duration curves are usually based on daily streamflow and describe the flow characteristics of a stream throughout a range of discharges without regard to the sequence of occurrence. If years of data are plotted the annual exceedance flows can be determined.

Ordinary High Water Mark: The mark along the bank or shore up to which the presence and action of the water are common and usual, and so long continued in all ordinary years, as to leave a natural line impressed on the bank or shore and indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics.

Roads: For purposes of these guidelines, roads include all sites of intentional surface disturbance for the purpose of vehicular or rail traffic and equipment use, including all surfaced and unsurfaced roads, temporary roads, closed and inoperable roads, legacy roads, skid trails, tractor roads, layouts, landings, turnouts, seasonal roads, fire lines, and staging areas.

Section 10 and 404 Regulatory Programs: The principal federal regulatory programs, carried out by the U.S. Army Corps of Engineers, affecting structures and other work below mean high water. The Corps, under Section 10 of the River and Harbor Act of 1899, regulates structures in, or affecting, navigable waters of the U.S. as well as excavation or deposition of materials (e.g., dredging or filling) in navigable waters. Under Section 404 of the Federal Water Pollution Control Act Amendments (Clean Water Act of 1977), the Corps is also responsible for evaluating application for Department of the Army permits for any activities that involve the placement of dredged or fill material into waters of the United States, including adjacent wetlands.

Waters of the United States: Currently defined by regulation to include all navigable and interstate waters, their tributaries and adjacent wetlands, as well as isolated wetlands and lakes and intermittent streams.

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Internet Resources:

California Department of Fish and Game
http://www.dfg.ca.gov

National Marine Fisheries Service Southwest Region
http://swr.nmfs.noaa.gov

Washington Department of Fish and Wildlife Fish Passage Technical Assistance
http://www.wa.gov/wdfw/hab/engineer/habeng.htm

Oregon Road/Stream Crossing Restoration Guide, Spring 1999 (with ODFW criteria)
http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/orfishps.htm

FishXing software and learning systems for the analysis of fish migration through culverts
http://www.stream.fs.fed.us/fishxing/

USDA Forest Service Water-Road Interaction Technology Series Documents
http://www.stream.fs.fed.us/water-road/index.html

British Columbia Forest Practices Code Stream Crossing Guidebook for Fish Streams
http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/stream/str-toc.htm

Please direct questions regarding this material to:

National Marine Fisheries Service
Hydraulic Engineering Staff
777 Sonoma Avenue, Suite 325
Santa Rosa, CA 95404

Phone: (707) 575-6050
Fax: (707) 578-3425

Email: nmfs.swr.fishpassage@noaa.gov

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